

crafts, after having been given a big increase in wages last year, are demanding another big increase. The President now in charge of the operation of all the railroads asked the officers of the shop crafts to submit their claims to investigation by a government commission. They turned him down cold, as they did the managers of the railroads three years ago, and have ordered a strike vote.

The president *now* in charge of the operation of all the railroads was president of the United States three years ago, and he is still president of the United States now. Three years ago he upheld railroad employees in refusing to submit their demands to arbitration. And now a group of railway employees which has made demands upon President Wilson as the operating head of the railroads of the United States under the law, declines to accept what would practically be arbitration of the demands that they have made upon him.

There were persons who criticised President Wilson three years ago for the way he dealt with the eight-hour basic day controversy upon the ground that his course was arbitrary and would encourage railway employees to persist in refusing to arbitrate controversies with the railway managements and to rely in future, as they did then, upon the use of force to get what they wanted. Now railway employees give to President Wilson the same answer which they gave to the railway managers three years ago, namely, that they will not submit their claims to a commission as suggested by him, but that he must grant them what they demand or they will strike. In fact, a good many thousands of them already have struck.

We wonder if President Wilson does not think better of the reasonableness and fairness of railway officers and worse of the reasonableness and fairness of some railway labor organizations now than he did three years ago?

We wonder if he does not think better of arbitration and worse of arbitrary methods as a means of settling railway labor disputes now than he did three years ago? Departures from sound principles in dealing with important matters always establish dangerous precedents.

Meantime, how much is left of the argument that serious strikes on railways will not occur under government operation?

The Wage Demands And the Plumb Plan

WE DO NOT quite understand from the various statements being made by the railroad labor leaders whether they propose to drop their demands for a billion dollar wage increase if they can have their Plumb plan adopted or whether the idea they would have the public receive is that if they are given control of the railroads the employees would work so much harder and more efficiently than they ever did for private management, or than they have been doing for the past year and-a-half for the government, but they could afford to pay themselves the increased wages and still show a surplus for a wage dividend.

If the former is the case, their argument that the higher wages are needed to meet the increased cost of living falls to the ground. If, on the other hand, they expect to pay themselves the increased wages their payroll would be equal to if not greater than the present total earnings of the railroads. Certainly we have not heard any of them say anything about reducing the payroll by dismissing a large number of employees because the others would be able to do all the work, and there is not enough margin between the payroll and the total earnings to allow for any economies

that would bulk very large as compared with the recent rates of wage increases.

There is no longer any room for discussion of the possibility of increasing wages at the expense of capital. The 1918 cycle of wage increases took more than capital ever got out of the railways in their most prosperous year. Practically all that capital is now getting for its guaranty is coming out of the treasury because in the first six months of this year the roads have earned only \$157,000,000 toward paying the cost of \$18,000,000,000 of capital. The literature circulated by the Plumb plan press bureau promises large reductions in freight and passenger rates. W. G. Lee and L. E. Sheppard, in testifying before the wage board, declared that large increases in rates are necessary.

Their public statements and what they say when they are not talking to the public do not hang together.

The brotherhoods and other railroad labor unions would receive more sympathy from those who have an opportunity to read the text of their repeated demands for higher wages, as distinguished from the public that gets merely newspaper statements based usually on the minimum rates they ask, if they did not invariably couple their pleas for relief for the lower paid men who undoubtedly have great difficulty in making both ends meet, with such unreasonable and outrageous rules for the benefit of the more prosperous members of the organizations as are contained in the demand which was recently presented to the Railroad Administration by the Brotherhood of Railroad Trainmen. Mr. Lee refers to his demand in the newspapers as for a minimum of \$150 a month, which does not sound especially unreasonable. But that is merely his minimum for flagmen and brakemen in passenger service. The proposed minima for baggagemen, assistant conductors and conductors in passenger service are \$160 and \$169 for two classes of baggagemen, \$179 for assistant conductors and \$200 for conductors. In freight service the proposed rates are stated as so much per mile or per day, for 100 miles or less, or eight hours or less, and range from \$5.88 per day for flagmen and brakemen to \$8.64 for conductors. It may be added that the Order of Railway Conductors is not satisfied with the demands made by Mr. Lee's organization for the conductors who are members of it, but ask higher rates.

But even the rates named are no index to the earnings of the men, because probably 50 per cent of them are paid mileage rates, plus various arbitrary allowances and overtime, and by making more than 150 miles a day in passenger service or 100 miles in freight service, earn much more than the basic day's pay, frequently in a period of less than eight hours. But this is not all. While Mr. Lee says he is demanding rates which will preserve the pre-war standard of living, he is asking not only enough to offset the depreciated purchasing power of the dollar but also to enable the employees to preserve their pre-war standards by doing less work. They have already been given the eight-hour basic day, which increases the rates per hour by 20 per cent, and large increases in the rates besides. Now, they want time and one-half not only for overtime but also for Sundays and holidays, and also a guaranty of the minimum rates named, for a 26-day month, exclusive of any earnings from overtime and extra service. The extra payment for Sunday and holiday work is not only demanded for men who may have 10 or 12 lay-off days in a month, but for all men, in spite of the fact that there are not 12 26-day months in a year exclusive of Sundays and holidays. Out of a 365-day year there are 52 Sundays. The holidays for which time and one-half is asked number seven. This leaves only 306 days, but the Brotherhood of Railroad Trainmen demands a guarantee of 312 days' pay, with any overtime or extra work additional.

Another feature of the B. R. T. demand is a rule that

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"mountain" rates, 10 per cent higher than the ordinary rates, shall be paid in freight service for the entire trip over any line where the gradient on any part of the trip whatever is 1.8 per cent or over. Mountain rates were originally established many years ago to meet the frontier conditions existing in the sparsely settled western country, and to compensate for the danger or difficulty of operating trains with hand brakes on mountain grades. Now the frontier conditions have largely disappeared and trains are equipped with power-brakes, yet it is proposed to extend the "mountain" rates to all parts of the country; and this is because a large percentage of railroad divisions include short stretches of track the grade of which is 1.8 per cent or over.

Moreover, the maintenance of the elaborate system of differentials between the rates of pay of the various classes of employees requires that any increase to the men who really need more money shall be granted in even greater proportion to the higher paid men who might be able to stand high prices for a time until an opportunity has been afforded to puncture some of the inflation which represents one of the costs of war.

It is interesting to note also that Mr. Lee is not satisfied with trying to meet the increase in the cost of living up to date, but told the wage board that he was "predicting into 1920."

Get Ready for a Strike to Force Government Ownership

THE AGITATION which has been started by the railway labor organizations, and especially by the employees in the shops and in train service, regarding wages and the cost of living, presents two entirely different phases. This is true because the leaders of these organizations are coupling their agitation regarding the cost of living with their propaganda for the Plumb Plan of government ownership and employees' management of railroads.

It is easy to sympathize with the complaint of the employees that the benefit of the billion dollar a year advance in wages which has been given them under government operation has been nullified by the increase in the cost of living. But even if it be true that the increase in the cost of living has been as great, or even greater, in proportion as the advance in railway wages, it does not follow that further advances in railway wages should be made. Any further advance in wages, like the advances which already have been made, would have to be paid by the public, either in the form of higher taxes, if the railroads are to continue to charge only the present rates, or in higher freight and passenger rates if rates are to be advanced enough to cover all expenses and fixed charges. The real question, then, is whether the railway employees are better entitled to further advances in wages than the public is to immunity from the increase in taxes or in freight and passenger rates which a further advance in railway wages would make necessary. This question might be intelligently and fairly investigated and determined by some government commission such as that which Director General Hines has recommended to President Wilson, and the President in turn has recommended to Congress, shall be created.

The leaders of the labor organizations have made clear, however, that they would not be satisfied by any such disposition of the question of wages and living costs. They have a scheme of their own for dealing with the cost of living. This is the adoption of the so-called "Plumb Plan" for government ownership of the railroads and their management by a board one-third of whose members would be ap-

pointed by the President, one-third by the officers, and one-third by the employees. Railway salaries and wages, under this plan, would be fixed by the board of directors, and as two-thirds of the directors would be chosen by the persons whose salaries and wages were to be fixed, undoubtedly they would be fixed high enough—at the expense of the general public—to more than offset all increases in the cost of living of railway employees.

But the claim that the Plumb Plan would stop increases in the general cost of living and even cause reductions in it is of all claims that could be made for it the most preposterous. This claim is based upon the ground that the cost of railroad transportation would be reduced under the Plumb Plan in two ways. First, it is said, the government could issue bonds bearing 4 per cent interest to buy the roads, while the companies must pay substantially higher rates of return. But everybody knows that the government had finally to pay 4¾ per cent interest to raise money to carry on the war; that war bonds are now selling in the market at rates that yield practically 5 per cent, and therefore it is an insult to the intelligence of the American public to claim that the government could raise at 4 per cent the many billions that would be required to buy the railroads. Second, it is claimed that if the railroads were turned over to the management of a board one-third of whose members were appointed by the President of the United States, and two-thirds by the officers and employees, vast economies would be effected. The question naturally arises, how would they be effected? The Plumb Plan advocates reply, by unified operation and better co-operation between the officers and employees. But we have unified operation already; and at least 99 per cent of the railroad operating officials of the United States are of the opinion that the Plumb Plan would destroy the last vestige of efficiency in the operation of the railroads. Now, whatever would destroy efficiency in the operation of the railroads would necessarily tend to increase the cost of living.

If the railway labor organizations were disposed to rely entirely upon propaganda for the promotion of the Plumb Plan, their advocacy of it would afford no ground for concern. Any person with even an elementary knowledge of economics and railway operation can demonstrate that the Plumb Plan is unsound in almost every particular and that its adoption would result disastrously to the public and in the long run to railway employees themselves. But unfortunately it is daily becoming more evident that the railway labor organizations do not intend to rely entirely, or even mainly, on propaganda to secure the adoption of their plan.

There have been sinister rumors for several weeks that the leaders of the large railway brotherhoods were quietly preparing to first prevent the return of the railroads to private operation and then to force government ownership and employees' management upon the American public. Recent developments, and statements made by the railway labor leaders, show that credence must be given to these reports, which a few weeks ago sounded incredible. The shop crafts and the Brotherhood of Railway Trainmen already have given notice that they will strike unless demands which they have presented to the Railroad Administration are favorably acted upon, and several serious strikes of shop employees already have occurred.

These and numerous other developments show that the labor leaders are taking steps to bring about a general condition of demoralization in the railroad labor field as the time approaches, according to the announcement of President Wilson, for the return of the railroads to private operation. Among the most ominous and conclusive signs are statements which are being made by the labor leaders. W. G. Lee, president of the Brotherhood of Railway Trainmen, said before the Board of Railroad Wages and Working Con-

ditions in Washington last week: "The war is over, but peace is not before us, or I am a poor prophet. We are nearer war today, I believe, than when the Kaiser threw down the gauntlet." L. E. Sheppard, acting head of the Order of Railway Conductors, also said: "They tell us that the railroads are going back in January, but mark this prediction: While I am not a prophet, or a son of a prophet, they will not go back January 1." Warren S. Stone, Grand Chief of the Brotherhood of Locomotive Engineers, in a newspaper interview published on August 4 was asked the question: "How far will you go in the fight?" He replied—"emphatically," as the reporter noted: "We will go far enough to win, and we are going to win." He was asked: "What if the roads are turned back to their owners?" He replied: "If they should be, they wouldn't stay there long, and it is not absolutely sure that they will be turned back by next January."

Three years ago the country was given an example of what Mr. Stone and his associates mean when they say, "We will go far enough to win." Declining to submit their basic eight-hour day demand to arbitration in any form, the "Big Four" brotherhoods frightened Congress into passing the Adamson Law by issuing an order for a tie-up of all the railroads of the United States and refusing to withdraw it until Congress passed the legislation that they wanted. The man who doubts that the nation is going, within the next few months, to be brought face to face with another similar crisis is blind.

There can be no question, in view of what all classes of persons say and of the attitude of the press, that at least 80 per cent of the people of the United States are opposed to government ownership and in favor of returning the roads to the operation of the companies. The railroad labor leaders are plainly trying to create a labor situation which will convince the public and Congress that a return to private operation on January 1, as announced by the President, is impracticable; and it is beyond serious question that they are prepared to take the same steps to force Congress to adopt the Plumb Plan that they took to force Congress to pass the Adamson Act. In other words, they are fully prepared to call a general railroad strike for the purpose of forcing government ownership and employees' management of the railroads upon the American people whether the people want it or not. This may seem an extreme view. But a little over three years ago anybody who had said that the Brotherhoods would go the length of calling a general railroad strike to force Congress to pass an eight-hour basic day law would have been accused of libeling them; yet they did it; and if they cannot get their plan for employees' management of the railroads adopted in any other way, they will try to force it through by means of a strike.

In view of past developments, it would be the greatest folly for the American public not to meet squarely the question which the attitude of the Brotherhoods has raised. That question is, do the 110,000,000 people of the United States, of whom at least 80 per cent are opposed to government ownership and favor a return of the railways to operation by the companies, intend to let the labor leaders force the public, by threatening or actually calling strikes, to continue government operation beyond January 1; force the public to buy the railroads and assume complete responsibility for their financial results; and then force the public to turn them over to the employees to manage as they see fit? If the public doesn't intend to submit to this, it must begin very soon to manifest its purpose to the President and the Congress of the United States and to demand that they adopt effective measures for the public's protection. There can be no reasonable doubt whatever as to how far the railway brotherhoods will go to get what they want. How far will the public go to protect itself?

Hocking Valley

IT WAS GENERALLY considered by the railroad men directly interested in traffic conditions in the Hocking Valley territory that there were distinct advantages to all concerned in having the Hocking Valley and the Toledo & Ohio Central, which parallels it, operated under conditions of restrained competition. For many years these roads were controlled jointly by the Chesapeake & Ohio, Pennsylvania, New York Central, Baltimore & Ohio and Erie. The state of Ohio, however, fought vigorously to break up the so-called monopoly, and in 1910 the control of the Hocking Valley passed to the Chesapeake & Ohio and the control of the Toledo & Ohio Central to the New York Central interests. Under government control, of course, the Hocking Valley has been operated as a part of the government unified system, but there is nothing in the figures in its report to indicate that it derived any operating advantages from this.

In 1918, under government operation, total operating revenues of the Hocking Valley amounted to \$13,156,000, an increase of \$2,459,000 or 23 per cent over 1917. The entire increase in revenue was due to increased freight



Hocking Valley

and passenger rates. The business handled by the road was less in 1918 than in 1917. The ton mileage of revenue freight carried in 1918 was 1,893,000,000, which was 73,000,000 ton miles or 3.7 per cent less than carried in 1917. The number of passengers carried one mile was 42,551,000 or 7,450,000 passenger miles or 14.9 per cent less than in 1917. The average revenue per ton mile of coal was 5.38 mills in 1918 or 32.8 per cent higher than in 1917, and the average revenue per ton mile of freight other than coal was 9.12 mills or 39.9 per cent higher than in 1917. The average revenue per passenger per mile was 2.441 cents in 1918 or 26.9 per cent higher than in 1917.

The increases in expenses on the Hocking Valley in 1918 over 1917 represent purely and simply increased costs of handling the same or less business. Total operating expenses amounted to \$10,449,000, an increase of \$3,040,000 or 41 per cent over 1917. It should be pointed out that the largest increases came in maintenance, being 58 per cent in maintenance of way and 57 per cent in maintenance of equipment. Transportation expenses, however, amounted to

\$4,913,000 or a little over 32 per cent more than 1917 transportation expenses.

Both train and car loading fell off somewhat in 1918 as compared with the very high average obtained in 1917. The revenue train load in 1918 averaged 1,267 tons or 5 per cent less than in 1917, and the average loading per loaded car was 43.7 tons or a fraction of 1 per cent less than in 1917. There was a decrease in the proportion of empties northbound but the number of these northbound empties is so small, anyway, that a reduction of 8.7 per cent meant only an average of two-tenths of one car less northbound in 1918 than in 1917. The average number of loaded cars southbound per train was 10.8 in 1918 and 13.2 in 1917, a decrease of 18 per cent. The average number of empty cars southbound was 40.9, an increase of a fraction of 1 per cent.

It would seem that whatever operating advantages might have been shown by operation of the Hocking Valley jointly with competing roads were offset by other conditions in 1918.

The rental which the government pays the Hocking Valley Railway Company is \$2,637,000. The operation of the property by the government failed to earn this amount by only a few thousand dollars.

This rental is sufficient to pay interest, war taxes, etc., and leaves \$1,360,000 available for dividends. The 4 per cent dividends which were paid called for \$440,000, leaving over \$900,000 to be put into the property.

As a matter of fact, the government paid, during 1918, no part of the rental due, but attempted to compel the company to accept 500 50-ton coal cars which, in the opinion of the board of directors, were of a type unsuited for the proper and efficient operation of the railroad. The cost of these 500 cars was \$1,348,000. The board of directors, however, will probably accept them as the lesser of two evils, thus clearing the way to getting payment of part at least of the rental due.

The Hocking Valley has deservedly had good credit, although probably the anti-monopoly suits of the state of Ohio have made that credit somewhat lower than the earning power of the property would justify. Even under federal operation and the war conditions of 1918 the property earned a substantial margin above the dividend rate actually paid by the company.

The company had outstanding \$5,000,000 six per cent notes which fell due November 1, 1918. The director general refused to accept the plan for refinancing these notes proposed by the bankers and which was acceptable to the Hocking Valley directors. After an extension of the notes a plan was agreed upon whereby the Hocking Valley made a general mortgage to secure \$50,000,000 bonds, of which \$9,600,000 notes bearing 6 per cent interest were issued and deposited as security for \$7,500,000 five-year, six per cent notes, due March 1, 1924, sold to the public.

The following table shows the principal figures for operation of the property by the government in 1918 as compared with the operation of the property by the owners in 1917. This is not the corporation income account.

	1918.	1917.
Mileage operated	350	350
Freight revenue	\$11,343,613	\$8,974,873
Passenger revenue	1,038,843	961,700
Total operating revenues	13,155,861	10,696,434
Maintenance of way and structures	1,490,446	945,590
Maintenance of equipment	3,718,010	2,365,944
Traffic expenses	83,422	120,675
Transportation expenses	4,912,857	3,716,384
General expenses	248,697	261,469
Total operating expenses	10,448,792	7,409,123
Taxes	634,842	612,800
Operating income	2,072,112	2,667,792
Other income (balance)	519,913	646,933

CORPORATE INCOME ACCOUNT

	1918.
Standard return (rental)	\$2,637,167
General expenses and war taxes	82,708
Other income	77,284
Total	2,631,744
Interest	1,271,915
Dividends	439,980
Surplus	919,849

Letters to the Editor

Automatic Train Stop Economy

CHICAGO.

TO THE EDITOR:

The *Railway Age* of June 20 offers an interesting discussion by the New York Commission on the collision problem. In my opinion Mr. Frank Rhea of New York City has definitely advanced the cause of automatic train control by suggesting the combination of the best features of all inventions into one standard system.

The automatic train control system designed by the late Benton C. Rowell of Chicago solves the problem more completely than any other system. However, there are many commendable features in other systems and ultimately, when the advocates of automatic train control are recognized, as they should have been years ago, and when such systems come into common use, the combination of the best ideas and the coalition of manufacturers must follow. Otherwise this particular line of manufacture will prove an exception to the rule that similar industries have a tendency toward consolidation.

And if ultimately the makers are going to combine their interests and ideas, would they not progress faster by such a consolidation at the present time? Why not all pull together for the best and most practical solution of the problem?

The old saying that competition is the life of trade is undoubtedly true; but where the life or limb of the traveling public is a factor such competition can do a great deal of harm. The cheapening of the grades of materials and workmanship in order to meet competition can cause untold damage, and that to human beings. The problem of train control is one not only for the inventor but for the humanitarian as well. A man's conscience must be his dictator in this work.

C. W. MORGAN.

The I. C. C. or a New Federal Body?

TO THE EDITOR:

It is much to be regretted that many of the splendid letters and articles that have recently appeared in the columns of the *Railway Age* relative to government control and government ownership and the situation generally with respect to Interstate Commerce Commission affairs and methods of dealing with the transportation companies are not read and thoroughly understood by the entire public that they, as well as those directly interested, including shippers, manufacturing and industrial concerns of every class and those connected with them, may be fully and correctly informed of the manner in which the railroads, which have accomplished more in the expansion and development of this great nation than perhaps any other business, are having their energy and life crushed out as the result of political propaganda.

It is the opinion of the writer, based on long experience and study of the question, that the Interstate Commerce Commission with its present powers and prerogatives, if allowed to continue, will result in complete demolition of the whole system that has taken years of energy and capital in the midst of difficulties and discouraging conditions to put even on a paying basis. Let's ask this question of ourselves: If left to the government itself, would we have as many miles of railroad as we have today? Would there be the vast army of railroad employees there is; would the manufacturer and farmer have prospered as he has? When it comes to a question of who has been the most benefited, there is no doubt

but that in the majority of cases the forces responsible for all this development have really benefited the least. It appears to me that it is like killing the goose that laid the golden egg.

Suggestions that the Interstate Commerce Commission be superseded by a newly created federal body sounds good if, in the selection of such, it is to be composed entirely of representatives who are practical railroad men in matters of operation and traffic and with power, say to the extent of acting in the capacity of arbitrators, or merely a referee in fact in the adjustment or settlement of controversies or differences arising as between railroads or railroads and the public, each case of dispute to be investigated and considered in accordance with conditions and circumstances as may exist in any particular location.

With the creation of this new body, let follow the abolishment of all State Commissions, with the exception that there be one representative for each state who will be present at any hearing and act in conjunction with the federal representative who may be assigned to investigate and consider any particular case merely in order that a state official may be in immediate touch with the situation that concerns his own state.

Can any one except a politician offer any satisfactory or good reason why there should be a dual commission in each state?

If it is really necessary that the railroads must have a guardian, then let it be one, and one who is competent in experience and judgment to render a decision that is as fair to the railroads as it is to the public, and eliminate entirely any ideas that tend to build up a powerful political machine.

E. B. SEYMOUR.

The Weak and Strong Road Problem

IOWA CITY, IOWA.

TO THE EDITOR:

The letter from Charles S. Fay and the address of E. P. Ripley, published in your issue of June 27, lead me to speak briefly on the subject of the reorganization of the railroads.

Mr. Fay's difficulty is that no plan provides for adjustment of rates as between the strong and weak lines which will not allow the strong too great compensation and the weak too little.

It seems to me that several plans make proper provision for this particular matter. Almost any plan that provides for the consolidation of weak and strong lines into systems, if carried out on a proper basis of value, would accomplish this purpose, possibly even better than the plan proposed by your subscriber, which aims to do the same thing.

Public attention has not been called to this plan and I beg to present the feature covering Mr. Fay's difficulty. By this plan the body fixing rates is to make rates such that the aggregate earnings of all railroad properties of the country shall be equal as nearly as may be to the following sums:

1. The aggregate of all costs of operation including wages and material and supplies for operation and maintenance, and including also proper allowance for depreciation for those items not properly maintained by the replacement method from year to year, and including also the cost of administration of the holding company. (A federal holding company to take over the stock of separate companies is provided in this plan. Separate properties, however, would be operated as independent concerns.)

2. All interest on the funded and other debt of the separate properties.

3. The stated interest on the preferred stock of the holding company. (This will be about 4 per cent. on the total

value of the stock of the properties of the country, determined by taking the market value at a selected proper time for normal properties and an agreed value for abnormal properties.)

4. A surplus emergency allowance of 5 per cent. of the sum of items 1, 2 and 3 to be collected only until the surplus funds shall equal 10 per cent. of the par value of the preferred participating stock of the holding company and thereafter to be collected at a rate only sufficient to maintain the surplus emergency fund at approximately 10 per cent. of the preferred participating stock par value.

5. A profit of not less than 10 per cent and not more than 20 per cent. of items 1, 2, and 3, calculated to be about 15 per cent. in the beginning and to increase toward the higher limit as the sum of 1, 2, and 3 per unit of service is decreased and to decrease as the sum of items 1, 2 and 3 is increased and in such proportion to be worked out as will penalize extravagance and reward economy.

From the earnings obtained the holding company is to distribute cash, equivalent to the net earnings in the following manner:

Semi-annually to pay the interest on the separate property bonds and other obligations.

Semi-annually to pay the stated interest on the holding company preferred stock. (In effect the stock of all separate properties.)

Semi-annually to charge the surplus funds quarterly to pay the profits.

Now comes the point of Mr. Fay's objection. The profits shall be distributed to the several properties in proportion to their *net earnings*.

It is expected that the foregoing will develop efficiency by making each separate property put forth its efforts to secure the largest traffic, that is, to render the largest service, and to handle it at the least cost.

Every road deemed essential to the commercial interests of the country will receive its operating expenses and interest on its obligations and a minimum rate of return on the value of its stock. The profit that it may earn above this will depend upon the traffic it secures and the efficiency with which this traffic is handled, which it seems to me is a just arrangement. Those properties that have been well located and are well handled are entitled to a larger rate of return than those properties which have been unwisely located and inefficiently handled.

With respect to Mr. Ripley's difficulty, the plan referred to creates a board made up of representatives of the people, appointed by the President, railroad owners and railroad operators. This board is to fix the rates in accordance with the requirements of the statute indicated above and is to determine the general policy of the transportation business of the country, assuming the executive and administrative duties of the Interstate Commerce Commission and leaving that commission to be a sort of court of appeals when the board cannot agree within itself or when objection to its policies or determinations is made by any one of the three parties interested, namely: the people, the operatives and the owners. This board also assumes the control of transportation on interstate roads now exercised by state commissioners, except the police power exercised by these commissioners.

The plan provides further for handling of the labor question, but that is another matter and this letter is not to present that complete plan, but to touch upon the two points made by Mr. Fay and Mr. Ripley.

No assertion is made that the provisions of this plan will bring about the results expected. It is merely believed by the subscriber that they will, and for that reason they have been offered as a contribution to the general discussion.

WM. C. RAYMOND,
Dean the State University of Iowa.

Labor Leaders Fight to Prevent Return of Roads

Present General Demands for New Wage Increases or Reduction
in Cost of Living with Plumb Plan as Alternative

WASHINGTON, D. C.

ORGANIZED RAILROAD LABOR came out in the open this week with its campaign to prevent the return of the railroads to their owners.

The alternatives of a nation-wide strike or strikes of railroad employees, a new cycle of wage increases duplicating the large increases of the war period, a reduction in the cost of living or the retirement of capital from the management of the railroads by the adoption of the Plumb plan of government ownership for the benefit of the employees, were put up to the government by the leaders of the railroad labor unions united in the Plumb Plan League, with strong indications that the adoption of the Plumb plan or something like it or at least the prevention of the return of the roads was the real object sought.

Speedy legislation providing for the creation of a tribunal to investigate and determine all questions concerning the wages of railroad employees, and also making its decisions mandatory upon the Interstate Commerce Commission to provide any increases in rates necessary to cover any recommended increases in wages was the remedy for the situation urged upon Congress on August 1 by President Wilson, on the representations of Director General Hines that such a course is required by the almost universal demand of the employees for further increases in wages to meet the high cost of living. The President and Mr. Hines, apparently conceding the need for higher wages, also turned their attention to efforts to reduce the prices of necessities.

The legislative solution proposed was received rather coldly by Congress, whose committees awaited the submission to them of the draft of a bill to carry out Mr. Hines' proposal. Many Congressmen, remembering their surrender to the brotherhoods in passing the Adamson law three years ago rather objected to being stampeded this time, while many were opposed to having any other tribunal fix the basis for rates established by the Interstate Commerce Commission.

The House committee, meeting on Monday, took no action on the President's recommendations, but voted to report the Cummins bill already passed by the Senate, which would make it impossible for the director general to put rates into effect without the chance of suspension by the commission. The Senate committee, meeting on Tuesday, appointed a subcommittee to report whether the full committee should first conduct an inquiry as to whether the cost of living has so increased since the wages were raised as to render them now inadequate. There were also some other indications during the first part of the week that Congress might "pass the buck" back to the President.

Director General Hines, without funds to pay increased wages, with a deficit of \$295,000,000 for the first six months of this year, confronted with a strong probability that Congress would pass the Cummins bill to curtail his ability to increase rates, and also sympathizing to some extent with the claim that present wages of many of the employees are inadequate, has declared the inability of the Railroad Administration to deal with the situation without special legislation.

The labor leaders, on the other hand, insist that he can meet their demands by raising rates to whatever point is necessary. They have made it clear that the plan proposed by Mr. Hines and the President does not meet with their approval and have threatened not to wait for action by Congress along the lines suggested.

The only alternative they seem willing to discuss is the Plumb plan which was introduced in the House as a bill by Representative Sims on Saturday (by request) and given a hearing before the House committee on Wednesday.

While Director General Hines was seeking to transfer from the Railroad Administration to the national government as a whole the responsibility for deciding on wage and rate increases that has perplexed him for some time, he in turn was appointed a member of a committee of three, including also R. C. Leffingwell, assistant secretary of the treasury, and W. B. Colver, chairman of the Federal Trade Commission to report on a program for dealing with the cost of living problem. The report was submitted to the

Cabinet on Tuesday, but its recommendations were not made public.

These developments were precipitated by a new demand from the Brotherhood of Railroad Trainmen on July 1 for another large wage advance, accompanied by a resolution threatening the possibility of a strike if the increase is not allowed by October 1; notice that the other brotherhoods and other organizations were contemplating similar action, and by the announcement of the

six shop craft unions that they would wait no longer for the general increase in wages demanded in January, which has since been under consideration by the Board of Wages and Working Conditions.

After a conference with the President at the White House on Monday, B. M. Jewell, chairman of the shopmen's committee, told newspaper men that "if Congress adopts the plan proposed by Director General Hines and President Wilson we will tie the railways up so tight that they will never run again." He added that this was also the position of the other organizations.

The entire situation was discussed with the President, and he was informed that his program was not acceptable. In a statement to the President, the committee said in part:

"We have not been consulted as to this entirely new departure, and it is only fair to say to you that the suggested plan does not at this time meet with our approval, nor are we willing to say that we are prepared to indorse any such procedure as the basis upon which wage rates shall be finally determined. From our point of view to do so would, in a great measure, deny to the men we represent the right of collective bargaining as we understand it.

"The letters of transmittal accompanying the recommendations, submitted by the Board of Railroad Wages and Working Conditions to the director general, copies of which have been furnished us by the director general, do not materially differ as to the necessities of meeting to a reasonable degree the increase of wages to the men we represent. The differ-

President Wilson

"I hope that it will be possible to consider and recommend legislation which will provide a body of the proper constitution, authorized to investigate and determine all questions concerning the wages of railway employees, and which will also make the decisions of that body mandatory upon the rate-making body and provide, when necessary, increased rates to cover any recommended increases in wages, and, therefore, in the cost of operating the railroads."

ence being only to the extent that the three labor members of the board recommend a specific increase, specified in the amount to be paid per hour. The three members representing the railroads qualified their recommendations to the extent of saying that unless costs of living could be reduced, thereby increasing the purchasing value of a dollar earned, it would be necessary to meet the situation by granting increases in wages.

"We particularly call your attention to the position now occupied by the railroad employees whom we represent. The only increase they have received since the railroads were placed under federal control is that provided for under Supplement No. 4, effective January 1, 1919.

"Practically all other employees of the railroads have received substantial increases under General Order 27, effective as of January 1, 1918, and other adjustments creating substantial increases were granted by the issuance of Supplements 7 and 8, effective September 1, 1918, and subsequent supplemental orders issued up to as late as April 14, 1919, effective to January 1, 1919.

"Members of these same organizations engaged in other industries have received substantial increases, establishing a differential in rates of pay, ranging from 10 to 30 cents per hour in excess of that now paid to the men in the railroad service, reserving, in a large degree, the pre-war conditions, as the railroad employees at that time received, as a general proposition, equal compensation paid men in other industries.

"As a result of this changed condition and the disappointment resulting from the long delay in disposing of the question which was submitted last January, we are now confronted with a situation which is nearing a point that can be no longer controlled.

"Information received within the last 48 hours is to the effect that not less than 20,000 of our railroad members have suspended work, as a protest against this long-deferred decision.

"In view of this condition, there is but one course open for us to pursue. That to submit to the entire membership the proposition as it has been presented to us by the director general, with a request that by their vote they shall decide what further action they may deem necessary to secure the much needed relief.

"We are in accord with the thought that an increase in wages of itself will not altogether solve the problem, but it is well to bear in mind that the classes of employees herein referred to, and for whom we speak, feel, and we believe justly so, that they are entitled to an increase in wages which will restore them to the same relative position as compared to their fellow-members employed in outside industries. We are not aware that this condition applies with equal force to other classes of railroad employees.

"May we urge upon you the necessity of meeting the present situation by putting into effect our original request submitted to the director general on January 7, 1919?"

President Wilson told the committee frankly, Mr. Jewell said, that while every agency of the government was working

on plans to bring relief from the high cost of living, the country could not expect a reduction to pre-war standards for a good many years to come.

Mr. Hines' recommendation, which was also placed in the form of a letter to the President, was transmitted by the President to the chairman of the House and Senate committees on interstate commerce on August 1 with a letter urging action along the lines suggested, and the President also wrote to the speaker of the House, asking it to postpone its recess, which had been set to begin on August 2.

Director General Hines' Recommendation

Mr. Hines' letter to the President is as follows:

Several months ago the railroad shop employees asked for an increase in wages. The matter was considered by the Railroad Administration's Board of Wages and Working Conditions, which is composed of three representatives of labor and three representatives of the railroad managements. This board was unable to agree, and therefore took no action as a board, but on July 16 I received two reports from members of the board, one from the three labor members recommending a general

increase in wages (for example, increasing the wages of machinists from 68 cents per hour to 80 cents per hour and proportionately increasing the wages of other classes of shop employees), and another report from the three management members recommending against any general increase in wages, although recommending certain readjustments of the wages of some classes of the employees.

The position of the labor members of the board is that the wages of railroad shopmen are substantially below the wages paid similar classes of employees in the navy yards, arsenals and shipyards, and in many industrial enterprises in the principal cities of the country, and that substantial increases in the wages in the shipyards and outside industrial enterprises have taken place since the wages of the shop employees were established in the summer of 1918, and the cost of living has been, and is, steadily rising. The position of the management members on the board is that the wages of shop employees are not properly comparable with the wages of non-railroad employees cited by the employees and their representatives, and that these latter industries have differentiating conditions which account for the high wages paid by them, and that a further wage increase at this time would simply begin a new cycle in the cost of living which would not benefit the employees. They urge instead, the adoption of methods of reducing the cost of living.

On July 28 a conference was begun in accordance with an arrangement made on July 8 between the representatives of the Railroad Administration and representatives of the shop employees. At this conference the representatives of the employees made it plain to my associates that their members expected, and believed that they were entitled to, a substantial increase in wages retroactive to January 1, 1919, and that the state of unrest was so great that it was of the highest importance that a definite answer be given on the

L. E. Sheppard

President, Order of Railway Conductors

"I hope he (director general) will see his way clear to cut the Gordian knot and throw the responsibility back on the government where it belongs.

"God knows the people of this country are against government control. Almost everybody is against it. But mark this prediction. They will not go back January 1."

Elisha Lee

Chairman of Regional Directors' Committee opposing trainmen's demands

"It is a very serious question in my mind, whether during this period of reconstruction we can all go back to pre-war conditions."

wage matter without delay. These representatives expressed the same views to me yesterday.

On July 17 the Shop Crafts Convention, meeting at Atlanta, Ga., and representing employees from 16 railroads in the Southeast, strongly urged the necessity for substantial increases in wages by August 1, retroactive to January 1.

The earnest insistence that immediate action be taken to equalize wages with the rapid increase in the cost of living is not confined to the shop employees.

The Triennial Convention of the Brotherhood of Railroad Trainmen, representing about 160,000 railroad employees, meeting at Columbus, Ohio, adopted on May 31 a resolution strongly urging substantial additional increases in wages to meet the cost of living.

The Triennial Convention of the Brotherhood of Locomotive Firemen, meeting at Denver from June 9 to July 15 and representing about 116,000 employees, likewise adopted resolutions insisting upon the necessity for substantial increases in wages to meet the increased cost of living.

The Thirteenth Annual Convention of Railway Signalmen of America in session at Kansas City on July 15 strongly urged a further increase in wages and similar action was taken at Boston on July 27 by 150 delegates to the convention of the United Brotherhood of Maintenance of Way Employees and Railroad Shop Employees of the railroad systems of New England and New York. The International Convention of the Brotherhood of Railway Clerks, which was held in Cincinnati from May 12 to 24, endorsed proposals to the Railroad Administration which also urged an increase and readjustment of the wages of the employees represented by that organization.

The representatives of the Railroad Administration have had assurances from representatives of practically all classes of employees that the continuance in the increase in the cost of living would necessarily involve very substantial increases in wages, and that any increases in wages given to any one class of railroad employees would necessitate corresponding increases to all other classes of railroad employees.

The situation thus presented involves the following considerations:

We have received the most positive assurances that any general increases to shop employees will result in demands for corresponding increases to every other class of railroad employees. The situation, therefore, cannot be viewed except as a whole for the entire two million railroad employees. Viewing it as a whole, every increase of one cent per hour means an increase of \$50,000,000 per year in operating expenses for straight time with a substantial addition for necessary overtime. An increase of 12 cents per hour as asked for by the shop employees would, if applied to all employees, mean (including necessary overtime) an increase of probably \$800,000,000 per year in operating expenses.

The government is already incurring a deficit at the rate of several hundred million dollars per year in operating the railroads, because the increase in transportation rates has been proportionately less than the increases in wages already granted and the increases in prices which have taken place. Therefore, there is no fund whatever out of which additional wages can be paid, so that additional wages cannot be paid unless new revenues are produced through an increase in transportation rates, and any immediate payment

of additional wages would necessitate for several months an appropriation by Congress out of the Treasury because substantial increases in rates could not be made immediately effective.

While you may find it expedient to use the temporary rate-making power, which was conferred upon you as a war emergency during federal control, to prevent the continuance of the deficit now being incurred which grows out of increases in wages and prices due to the war, you would not, in my opinion, be justified in regarding that rate-making power as a sufficient warrant for making still additional increases in rates for the purpose of paying still additional increases in wages to be established under existing peace conditions, and to be controlling as the wage basis in the future.

The question presented for an additional increase in wages, whether the total amount be \$800,000,000 or any proportion of that sum, is a peace-time question between the entire American public on the one hand and the two million railroad employees and the members of their families on the other hand. It is a question which I do not believe the Executive ought to undertake to decide unless specific authority is conferred upon him for the express purpose of deciding it.

The fact that these demands are made and are so urgently pressed emphasizes the great necessity of having for their decision legislation which will provide adequate machinery representing both the public and the employees. Obviously any such machinery should include a method whereby revenues will be provided to the extent required to pay the increased wages awarded.

While the general powers implied in the federal control act were sufficient to admit of taking as war measures the necessary steps to deal with the wage problems that arose during the war they are not sufficient to satisfy the requirements arising in connection with any present proposals for general wage increases. Under the existing machinery the ultimate public interest is exclusively represented by the Railroad Administration in the making of wages but by the Interstate Commerce Commission in the final decision upon rates. Moreover, the Railroad Administration while thus charged with the final decision as to what wages are proper as between the American public and railroad labor is also charged with the responsibilities incident to the day to day operation of the railroads. On the one hand, a decision by the Railroad Administration against an increase in wages will be regarded by the employees as a decision dictated more by the immediate difficulties of railroad management than by the broad interests of the public as a whole. On the other hand, a decision by the Railroad Administration in favor of an increase in wages will not necessarily be binding on the Interstate Commerce Commission, which is now the final representative of the public as to transportation rates. To deal with these problems under peace time conditions there ought to be a final and authoritative presentation of the public whose decision when in favor of a wage increase would carry with it the obligation on the part of the final rate-making power to prescribe rates which would furnish the necessary funds with which to pay the increased wages. It is obvious that no wage increases could be put into effect at the moment except on the theory that for several

Warren S. Stone

Grand Chief, Brotherhood of Locomotive Engineers

"We do not believe that increasing the compensation, accompanied by a greater increase in the cost of commodities of life, will produce lasting benefits to our craft or to the American citizen in general. We believe the true remedy for the situation, and one that will result in lifting the burden under which the whole people are struggling, is for the government to take some adequate measures to reduce the cost of the necessities of life to a figure that the present wages and income of the people will meet."

months they would be paid by an appropriation of Congress because even under the existing machinery rate increases could not actually be put into effect for a substantial period. Undoubtedly any rate increases of a general character ought at the present time to be considered by the Interstate Commerce Commission before they shall be put into effect.

The conclusion to which I have come has been forced upon me by the recent developments above referred to.

When I announced last March the increases in wages for the employees in train and engine service I stated that they completed the war cycle of wage increases.

When it developed in May and June that the continued pressure of the increase in the cost of living was causing railroad employees generally to urge that they be given substantial protection through further important increases in wages if the cost of living was not reduced, I realized that the question was assuming such wide and deep significance to the American public as well as to railroad employees that the question ought not to be dealt with in the same way in which the railroad wages had been increased in connection with the war emergency. I therefore advised the Board of Railroad Wages and Working Conditions on July 3 that they could not regard themselves as vested with jurisdiction to formulate and recommend further general wage increases to be made by me, but that in all cases thereafter arising they should report the facts to me that I might decide in the light of the facts upon a fair and just procedure.

The receipt of the observations of the members of the board with reference to the shop employees, the hearings now in progress before the board with reference to the Brotherhood of Railroad Trainmen, the conferences I have had in the last three days with the representatives of the shop employees and the conferences which my associates and I have been having recently with the representatives of practically all classes of railroad labor with reference to the menace in the continued increase in the cost of living, force me to the definite conclusion that the problem is too great and has too much permanent significance to the American public as well as to railroad labor to admit of its being decided through the exercise of the war emergency powers of the federal control act and which are subject to the limitations and embarrassments above pointed out. I feel that the developments have now reached the point where the situation has taken a sufficiently concrete form to serve as the basis for a positive recommendation.

I therefore respectfully recommend that Congress be asked promptly to adopt legislation providing a properly constituted body on which the public and labor will be adequately represented and which will be empowered to pass on these and all railroad wage problems, but not on rules and working conditions (because the latter cannot be satisfactorily separated from the current handling of railroad operations and therefore should continue to be dealt with by the Railroad Ad-

ministration). Such legislation should also provide that if wage increases shall be decided upon it shall be mandatory upon the rate-making body to provide where necessary increased rates to take care of the resulting increases in the cost of operating the railroads.

I do not think that we can properly deal with this great problem without a full recognition of the fact that the cost of living is rapidly rising, and that every month that passes promises to impair still further the purchasing power of the existing wages of railroad employees unless the rise in the cost of living can be successfully restrained (as I earnestly hope in the general public interest it can speedily be). I therefore further recommend that Congress be asked to provide in any such legislation that any increases in railroad wages which may be made by the tribunal constituted for that purpose shall be made effective as of August 1, 1919, to such an extent as that tribunal may regard reasonable and proper in order to give railroad employees from that date the benefit which the tribunal may think they were then entitled to. In this way the delay necessarily incident to the creation of such tribunal and its action will not be prejudicial to the fair interests of the railroad employees.

W. G. Lee

President, Brotherhood of Railroad Trainmen

"We are going to have time and one-half for overtime, we are going to have decent living wages and we are going to get it in our own way if we must.

"The railroads properly refer to their inadequate rates, but it is up to the Railroad Administration to determine what is needed to pay the going costs of railroad operation and to fix the rates to meet it. There is no business in this country that is asked by the public to operate at a loss except the railroads. Unless these employees are given a wage that will permit them to live under pre-war conditions there is going to be something worse happen on these railroads, so far as the public is concerned, than an increase in freight and passenger rates.

"I will admit that we are going the wrong way. I admit to you that it is time to call a halt, but as long as present methods continue I believe in everybody getting his share as nearly as he can until the final upheaval comes.

"We are dealing with this situation wrongly in trying to settle these things as we are, and not getting after the people who are to blame."

President Wilson Urges Legislation

The President in his letters to Senator Cummins and Representative Esch said:

I take the liberty of enclosing a copy of a letter which I have just received from Mr. Walker D. Hines, the director general of railroads, and which I am sure you will agree with me in thinking contains matter for very serious thought and for action also.

May I not say that I concur in the suggestions which Mr. Hines makes in the two concluding paragraphs of his letter. I hope that it will be possible for your committee to consider and recommend legislation which will provide a body of the proper constitution, authorized to investigate and determine all ques-

tions concerning the wages of railway employees, and which will also make the decisions of that body mandatory upon the rate-making body and provide, when necessary, increased rates to cover any recommended increases in wages and, therefore, in the cost of operating the railroads. In view also of the indisputable facts with regard to the increased cost of living, I concur in Mr. Hines' suggestion that the legislation undertaken should authorize the body thus set up to make its findings with regard to wage increases retroactive to the first of August, 1919, at any rate to the extent that that tribunal may regard reasonable and proper, in order to give real relief to the employees concerned.

I need not, I am sure, urge upon you the importance of this matter, which seems vital from more than one point of view, and I hope that you will think this form of action the proper and necessary one.

In the letter to Speaker Gillett, President Wilson said that Mr. Hines had informed him that the situation with reference to the railroads is growing so critical every hour that

he hoped it would be possible to postpone the recess until some definite action is taken. He also said that officials of the government have been in consultation with reference to the problems growing out of the high cost of living, upon which he expected recommendations to be made within a fortnight. Somewhat grumblingly, because a large number of the Representatives had already bought their tickets for home, the House rescinded its adjournment to September 9, although an unsuccessful effort was made to adopt a program of three-day recesses.

As soon as the President had announced his approval of the plan, Mr. Hines went to the Capitol and conferred with Senator Cummins and Representative Esch, offering his assistance in the drafting of a bill.

Some of the Congressional leaders were disposed to try to make political capital out of the fact that the President had "passed the buck" to Congress. Representative Mondell, the Republican floor leader, said he still believed that careful and wise consideration of the railway problem, including the very problems suggested by the President, would have been advanced by the recess, because the committees would have continued consideration of great questions, including the railway problem, during the recess. Speaker Gillett, in replying to the President's request for a postponement also said that "as to railroad legislation, I supposed by an act of Congress you had now full authority, and one of the reasons of our recess was that the committee of the House might, uninterrupted by the business of the House, prepare the legislation which will be necessary when your authority ceases." However, Representative Blanton was the only one to vote against the postponement, which he did on the ground that it was another "hold-up" on the part of the labor organizations. Mr. Blanton denounced the brotherhoods and declared that the granting of the proposed wage increases might solve the high cost of living problem for railway employees, but it would leave the other people of the country worse off than before.

"Big Four" Brotherhoods Prepare Demands

On the same day that Mr. Hines conferred with the President, Warren S. Stone, grand chief of the Brotherhood of Locomotive Engineers, and the other members of the advisory board of the brotherhood, called on the President and presented the statement published in last week's issue announcing an alternative demand for either a reduction in the cost of living or a wage increase. The brotherhood has since served formal notice of its intention to present a new wage proposition and L. E. Sheppard, president, and other officers of the Order of Railway Conductors, which had voted not to ask for a wage increase at this time, but had asked the wage board for consideration in connection with any increase that might be allowed on the request of the Brotherhood of Railroad Trainmen, also called on the President on August 2 and announced the intention of asking for a 35 per cent increase.

The Brotherhood of Locomotive Firemen and Enginemen has called a meeting for August 12 at Cleveland to frame its demands. President W. G. Lee of the trainmen has referred to his demands as providing for a 45 per cent increase. The demand of the Brotherhood of Railway Clerks which has since been filed is for 20 cents an hour increase and a 44-hour week.

Urge Action to Check Cost of Living

While insisting that their demands must be granted, officers of the transportation brotherhoods have expressed a realization that repeated increases in wages do not solve the problem because they are immediately followed by increasing rises in the prices of commodities, and have strongly urged a campaign to prevent further increases in living costs. They have bitterly criticised Congress for not doing something but have directed most of their invective toward alleged profiteering. W. G. Lee and L. E. Sheppard have also been outspoken in their demand that freight rates be advanced to a level sufficient to pay higher wages.

The wage demands before the Railroad Administration upon which hearings have been held had reached a total of approximately \$400,000,000 a year. This includes \$210,000,000 for the 450,000 shop employees, \$100,000,000 for the 140,000 trainmen, \$40,000,000 for the 40,000 conductors on the basis of the demands presented by the trainmen; and \$50,000,000 for time and one-half for overtime in road train service, on which Railway Board of Adjustment No. 1 has submitted a divided report to the director general.

The re-opening of the wage question by the "Big Four" brotherhoods so soon after the \$60,000,000 award made in April came as a surprise. The brotherhoods received more than \$60,000,000 in 1917 through the Adamson law; last year they gained a further increase of \$140,000,000 under Director General

McAdoo, and this was followed by the \$60,000,000 supplementary award this spring—a total of \$260,000,000, or an average increase of about \$800 per man, bringing their average up from \$1,250 and \$2,050 a year.

The new demands also have definitely destroyed the theory so sedulously advanced by the labor leaders that wage and labor controversies can be satisfactorily settled by bi-partisan boards composed of equal numbers of representatives of the management and of labor. This plan for dealing with labor questions, with provision for a referee in case of disagreement, was adopted by the National Transportation Conference called by the United States Chamber of Commerce and was advocated before the House committee as recently as July 24 by W. N. Doak, vice-president of the Brotherhood of Railroad Trainmen, who said that it made little difference who the referee was because the boards could agree in most cases. The bi-partisan plan has worked very successfully in the handling of the multitude of disputes as to schedule interpretations and discipline which have been passed on by the Railroad Administration boards of adjustment but questions of wages have been handled by the bi-partisan

Walker D. Hines

Director General of Railroads

"The question presented for an additional increase in wages, whether the total amount be \$800,000,000 or any proportion of that sum, is a peace-time question between the entire American public on the one hand and the two million railroad employees and the members of their families on the other hand. It is a question which I do not believe the Executive ought to undertake to decide unless specific authority is conferred upon him for the express purpose of deciding it.

"Contentions that existing wages are lower than they ought to be in view of the present cost of living raise an exceedingly grave question for the government. That question is whether, when railroad operations are now being conducted at a very heavy deficit, the government ought to enter upon a course which will bring about large additional increases in wages, and will inevitably bring about also very heavy increases in rates, and without question set in motion a new and dangerous cycle of increases in the cost of living."

Board of Railroad Wages and Working Conditions, which has merely made recommendations to the director general who had the responsibility of final decision. This board has not always been unanimous and in the case of the shopmen's demands the representatives of the management and of the employees divided evenly. Moreover, when the Brotherhood of Railroad Trainmen started the new cycle of demands for the brotherhoods the director general on July 3 removed even the jurisdiction of the board to make recommendations except as to matters of equalization and directed the board to report to him a summary of the facts.

Cabinet Tackles Cost of Living Problem

Director General Hines has been giving serious consideration for some time to the cost of living problem and its causes, in its relation both to wages and to rates, and is understood to have strongly urged upon the President and members of his cabinet the fundamental importance of taking such steps as may be possible to deal with the situation. His reluctance to increase freight rates to offset his steadily mounting deficit, although such a course had come to be regarded as inevitable even by many shippers who did not like the idea, has been due to his unwillingness to furnish even the excuse for further increases in prices if it could be avoided.

On the day after Mr. Hines saw the President a conference of eight high government officials was called by Attorney General Palmer to discuss the matter, which was attended by Secretaries Glass of the Treasury, Houston of the Department of Agriculture, Redfield of the Department of Commerce, Wilson of the Department of Labor, Director General Hines, Chairman W. B. Colver and Victor Murdock of the Federal Trade Commission, and R. C. Leffingwell, assistant Secretary of the Treasury. After a general discussion lasting nearly three hours the conference adjourned to meet on Tuesday, when Julius H. Barnes, director of the United States Grain Corporation, was also included, and Messrs. Hines, Colver and Leffingwell were appointed a special committee to report at the next meeting. The new developments also stirred up a good deal of oratory in Congress and in a couple of Congressional committees that are holding the usual kind of Congressional investigations of the cost of living. The Senate passed a resolution requesting its banking committee to report whether legislation to reduce the amount of currency in circulation was advisable, and several bills were introduced. A plan for selling surplus army food supplies at cost is also being worked out.

The purpose of the labor organizations to prevent the return of the roads to their owners is indicated in a statement issued on Saturday by the heads of the four brotherhoods and of the Railway Employees' Department of the American Federation of Labor regarding the bill introduced in Congress on Saturday by Representative Sims to carry out the provisions of the Plumb plan. In this it was declared that "the railroad employees are in no mood to brook the return of the lines to their former control," also President Sheppard of the Order of Railway Conductors, in his statement before the Board of Wages and Working Conditions, told the board to "mark his prediction that the railroads will not go back on January 1."

Although in speaking before the wage board W. G. Lee and L. E. Sheppard had both expressed great impatience because Mr. Hines was not willing to order large increases in freight and passenger rates in order to pay the higher wages asked, they both signed the statement issued by the Plumb plan press bureau asserting that the Plumb plan would reduce both rates and the cost of living. They failed to explain in any detail how they expected to pay themselves another billion dollar increase in wages on top of the increases in last year, which have produced deficits for eight months, and still reduce rates while paying a wage dividend

out of the surplus. Warren S. Stone, asked how far the organizations proposed to go, said, "We are going far enough to win the fight, and we are going to win." Such statements are not carelessly made public.

Shop Crafts Take Official Strike Vote

The labor organizations apparently did not take kindly to Mr. Hines' proposal for an independent tribunal to pass upon wage questions. The shop organizations particularly were aroused by the suggestion that any increases be made effective as of August 1 because they had demanded that their increase be made retroactive to January 1, 1919. B. M. Jewell, acting president of the Railway Employees' Department of the American Federation of Labor, announced on August 2 that it had been decided to call for a strike vote, returnable by August 24, of the approximately 500,000 shop employees involved. Acting on behalf of the six shop crafts a committee of 100, of which Mr. Jewell as chairman presented to the director general on January 7 a request for a minimum of 85 cents an hour for mechanics, an increase of 17 cents; a minimum of 60 cents for helpers, an increase of 15 cents; an increase of 10 cents per hour for apprentices and various differentials for special classes of work. On February 8 the question was referred to the Board of Wages and Working Conditions, during March and April hearings were held by the board, and on July 16 the board made its divided report to the director general. During this period the board was also giving consideration to a demand by the shop crafts for a national agreement covering rules and working conditions, to be effective on all roads under federal control regardless of whether they had previously had contracts with the unions. These were considered by committees representing the employees and the regional directors, which submitted a report to the board and the board made its recommendation to the director general on July 16. During June and July several local shop strikes were called by way of protest against the delay in passing on these two matters, but they were settled. Beginning on July 28 the committee of 100 began a series of conferences with the director general demanding a decision by August 1. The unions on the southeastern roads had definitely decided to strike on that date unless their demands were granted. On July 30 Mr. Hines advised the committee he would be glad to enter into the agreement covering rules and working conditions, and promised to give a decision on the wage question later. Mr. Jewell then wired the various local organizations that they had gained one point sought and instructing them that there must be no stoppages of work pending the conclusion of the negotiations. This was not sufficient to hold the men in check, however, and the shop men walked out in various parts of the country on August 1, the number increasing on the following days. The dissatisfaction was increased on Friday, when in lieu of a decision on the wage question Mr. Hines read to the committee his letter to the President proposing a special wage tribunal. Meanwhile the negotiations as to the rules and working conditions have been temporarily set aside.

"We shall continue to endeavor to settle the demands by negotiation with the Railroad Administration pending receipt of the strike vote," said Mr. Jewell. "That will, when taken, simply center the power for calling a strike in the hands of the committee. The first effect will probably be the ending of the present strike, which has taken out a considerable number of men over various sections of the country who have been impatient of the long delay. Their walkouts have been unauthorized, but we expect they will return when they see that the organizations intend action in a united fashion."

Approximately 30,000 shopmen in Chicago and 100,000 men in the Chicago district were reported to have left their

work at 10 a. m. on August 1 and approximately 35,000 men on 16 railways in the Southeast took similar action. This strike came at a particularly unfortunate time because the Railroad Administration has been bending every effort to put its equipment in condition to meet the demands of the heavy grain traffic. Shopmen in Boston, Philadelphia, Denver were also reported to have gone out, and the strike spread somewhat on the following day. By Monday leaders of the shopmen in Chicago declared that 50,000 men were out throughout the country. The shop employees of the Southern Railway at Alexandria, Va., a strategic location for making an impression on Congress, were among the first to walk out, and they were followed on Saturday by the employees at Potomac yard, and on Monday by those at the Washington terminal.

On Monday B. M. Jewell and other members of the shopmen's committee called on the President at the White House.

Director General Hines held a conference on Monday with the labor officers who were in the city, including the Brotherhood officers and J. J. Forrester of the clerks, to explain his attitude to them first hand.

Opposition to Wage Tribunal in Congress

Many members of Congress have expressed disapproval of the plan for the creation of a special wage tribunal, very brave in their declarations not to be stampeded by organized labor as long as they thought that by inaction they could leave the responsibility for dealing with the situation with the President or Director General Hines. There was a lively discussion of the proposal in the Senate on Tuesday, when Senator Cummins declared that the President and the Railroad Administration already have full power under the federal control act. He insisted that no legislation was necessary, but that the President's recommendations would receive careful consideration. He said the President can fix both wages and rates, that the Cummins bill was not yet a law and that even if it were the director general could still initiate rates. Mr. Hines, however, has taken the position that while he could initiate rates he would have no knowledge as to whether they would stick and that even under the present law the commission could reduce his rates after a review, and he does not like the idea of raising wages and then wondering whether the money to pay them is to come from rates or an appropriation, with uncertain factors attending both methods.

Chairman Esch of the House Committee also indicated a belief that the President already has ample powers, and he opposed the idea of a new commission whose findings would leave the Interstate Commerce Commission no discretion as to an increase in rates. Mr. Esch in discussing the Plumb plan bill said he thought the people are opposed to government ownership and that if labor tries to force its plan by threatening strikes such action will react against them.

Senator Cummins also declared that nationalization of the railroads would be a step toward socialism that could only be followed by its application to other industries, but, he said, he did not anticipate that the step would be taken.

Senator McKellar urged that the efforts of Congress be devoted to working out a permanent solution of the railroad problem.

Senator Pomerene said that if he were director general he thought he would "have the courage to say either that there ought or ought not to be an increase of wages," or resign.

Senator Kellogg took the position that the President is recommending only temporary emergency legislation and expressed the opinion that the President already has sufficient authority. But he said he would give the matter earnest consideration and would not say that he would not finally favor the action proposed by the President.

Senator Thomas denounced the action of the labor organizations in a long speech, in which he said: "I do not want to be extreme, and yet I cannot in my mind characterize a threat like this from government employees as short of treason."

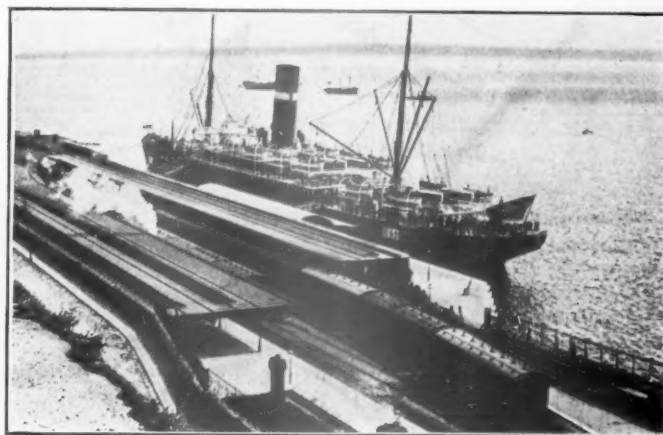
Senator King referred to the criticism already caused by the increases in rates and wages last year and asked if it would not be far better, if such an important step is to be taken, that Congress should legislate and direct whether there shall be an increase in wages, and if so, advise the means by which an increase shall be made.

Executive officers of all fourteen railroad labor organizations have been in Washington conferring with Director General Hines, and on Tuesday left with him some kind of a proposition, the nature of which was not disclosed. They also made it clear that they were united in opposition to the plan for a wage tribunal.

President Wilson cancelled all other engagements to devote his attention to the cost of living problem, which was the subject of the cabinet meeting on Tuesday, and received many reports bearing on it from various government departments. It was announced he would address Congress on the subject on Friday.

In a statement presented to Director General Hines by fourteen railroad organizations his proposal for a wage commission was opposed, and he was urged to recommend the passage by Congress of an appropriation bill to enable him to increase wages pending a careful study as to what increases in rates would be necessary. They declared that employees were at least entitled to compensation that would re-establish the pre-war purchasing power of their wages, that board of wages and working conditions already affords necessary machinery to handle the wage questions and they asked that its functions be restored, but that its recommendations be submitted to the organizations before being issued. A plan for a Congressional investigation was disapproved because it would mean delay. "Prompt action in this regard is both essential and desirable. This will only give temporary relief and must be accompanied or immediately followed by a determined united effort to not only prevent a further increase in cost of living but to secure a reduction therein." They also declared that any permanent solution of the railroad problem must necessarily remove the element of returns on capital as the sole purpose of operation.

The Senate committee on Wednesday decided to take no action on the President's recommendation, and authorized Chairman Cummings to write a letter to the President saying he already has full authority and that a special board is neither necessary nor desirable.

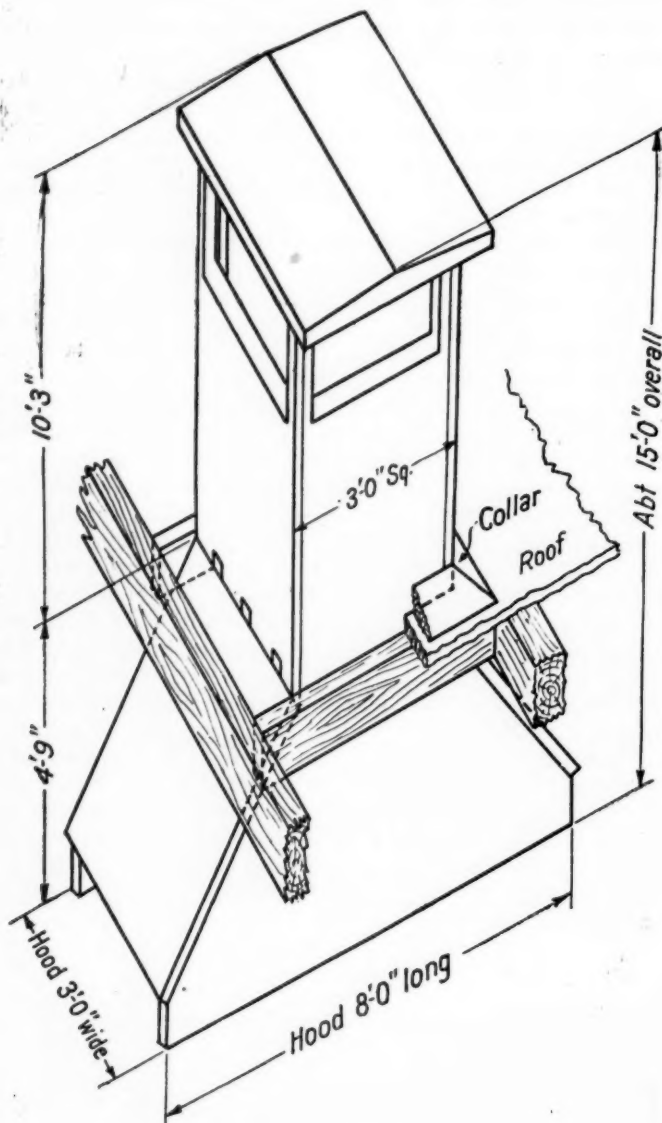


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Scenes from Foreign Ports—The Station of the Great Southern & Western at Queenstown, Ireland

A Timber Smoke Jack

ONE OF THE RECENT developments in engine house equipment has been the development of a smoke jack manufactured of kiln-dried California redwood, thoroughly treated and fireproofed before being fabricated. It has the advantages of being light in weight and easy to handle and is furnished knocked down ready for assembly by unskilled labor. No nails or fastenings are exposed to the smoke or locomotive gases and it is claimed for the jack that it is free from sweat, rust and other objectionable features. The jack is built of mill construction, the details of which are clearly



Details of the Mill Type Jack

shown in the drawing. It is supported in place by a simple collar resting on the roof and requires no guy wires or other supports. In operation, the jack presents a large ventilating area and it may be equipped with an automatic damper if desired. It presents smooth surfaces inside and out, which, with the absence of supports, are reflected in the low cost of maintenance. The jack is manufactured under the trade name of Mill Type Smoke Jack by the Smoke Jack Company of East Boston, Mass.

Croesus was once a poor man, but he saved. He would have jumped at a chance to buy War Savings Stamps.

The Striking Shopmen

THE NUMBERS OF SHOPMEN on strike on the principal roads in the Central Western region as reported on Wednesday, August 6, were as follows (numbers reported by labor leaders are much larger than these):

Chicago, Burlington & Quincy.....	500
Chicago, Rock Island & Pacific.....	7,250
Chicago & Eastern Illinois.....	2,800
Indiana Harbor Belt.....	425
Atchison, Topeka & Santa Fe.....	1,100
Chicago Junction	280
Kansas City Terminals.....	800

The total in the Central Western region is approximately 18,000. The Northwestern region reports the total number of shopmen out as 38,000. The strike appears to be rapidly spreading westward. Press reports on Wednesday indicated that the shopmen of the Union Pacific, Denver & Rio Grande and Southern Pacific walked out on that day.

On the Wabash, as a consequence of the strike, freight service was practically suspended. The Chesapeake & Ohio announced at Huntington, W. Va., on Wednesday evening, that on all its lines west of Clifton Forge, Va., both passenger and freight traffic would be discontinued at once.

The St. Louis-San Francisco and the Missouri Pacific placed embargoes on all freight.

Eastern railroads up to the time of going to press have reported little disturbance, though there were a number of local walkouts in New England, apparently not large.

In Macon, Ga., according to "The Telegraph" of that city, about 1,600 shopmen struck on Saturday, August 2, the larger number being employees of the Central of Georgia. At Florence, S. C., about 400 men struck, at the shops of the Atlantic Coast Line. Considerable numbers struck at the shops of the Chesapeake & Ohio at Silver Grove, Ky., and Covington, Ky.; on the Louisville & Nashville at Covington and Decoursey, and on the Cleveland, Cincinnati, Chicago & St. Louis at Riverside yards.

Reports from Duluth, Minn., indicated that all shop employees on all roads in Duluth and Superior were out. All shop employees on the Duluth, Missabe & Northern left their work and all on the Duluth & Iron Range, except a few at Two Harbors. The electrical workers on the Duluth, Missabe & Northern coal dock went out Tuesday morning, tying up operations of the dock. Dock workers struck at Escanaba and Ashland. Duluth reported no interruption to freight or passenger train service; the necessary work on locomotives was being done by emergency help.



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Scenes from Foreign Ports—The Water Front at Stockholm, Sweden

The Reconstruction Program for French Railways*

Plan for New Construction and Standardization of Railway Material; Cost of Improvements to Inland Waterways and Seaports

By Robert E. Thayer,
European Editor of the *Railway Age*

Part II

THE PROBABLE COST of work for the reconstruction of the lines of communication of the liberated regions mentioned in the first part of this article may be summed up as follows:

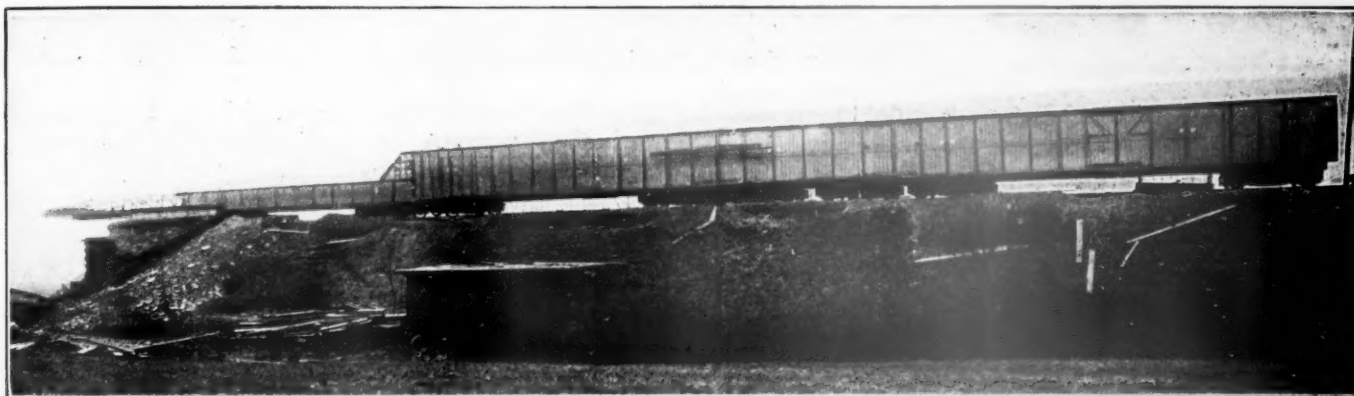
Principal Railroads (way and buildings).....	\$250,000,000
Railroads of Local Interest.....	83,600,000
Navigable Waters	43,000,000
Maritime Ports	16,000,000
Highways	64,000,000
Total	\$456,000,000

This figure is not final, but only gives an approximate estimate of the probable cost of each class of work. It does not include the material, supplies and machinery of the

and permitting the making of a program for each big problem, thus reducing as much as possible the charges on the treasury and regulating the execution of the work so as to prevent its being dependent on the variations of the budget from year to year. The Minister proposed that this law should require:

(a) That a special report should be submitted for each big piece of work, which should be studied by a committee composed of technicians, manufacturers, financiers, etc., and then be examined by the Supreme Council of the Ministry of Public Works.

(b) That the authorizations necessary be then requested



This Shows the Members of the Bridge Rivetted in Place and Ready to Extend Out Over the Span

principal railroads, as well as all the damages which have no direct connection with work still to be carried out.

Plans for New Construction

As pointed out at the beginning of this article, the French Minister of Public Works in addition to the general reconstruction of the devastated lines, is seeking to not only carry on the new construction contemplated before the war, but to still further improve the railways to meet the new conditions arising on account of the war. He has asked that the following program be carried out in order to handle the problems in a practical way:

1. The work interrupted by the war should be completed as rapidly as possible, as well as that already properly authorized, using to advantage everything that has been constructed or imported during the war for the needs of the French and Allied armies. For this purpose, on March 2, 1919, a commission was named to study all questions regarding the handing over to the French Government of installations in connection with railroads, navigation and ports, as well as equipment belonging to the British and American armies.

2. A new financial system is to be adopted, controlled by a law, preventing the overburdening of the present generation

from the Chamber of Deputies, account being taken of the amount of the financial participation of the communities, corporations and other parties interested in the project.

Realizing the importance of completing the new working contemplated as soon as possible and at a reasonable cost the Minister of Public Works gave strict instructions that the engineers should not seek to construct elaborate structures (ouvrage d'art).

He stated that all unnecessary features should be avoided, and that wherever possible the stock material on the ground should be used. He also mentioned, that although the size of the installations—particularly in the ports—should take into account the future needs, certain ones should be constructed rapidly and cheaply now, using the best methods employed during the hostilities, in order to meet present requirements.

STANDARDIZATION OF MATERIALS

The Ministry of Public Works is doing its best to standardize the types of material and equipment used on railroads. Instructions were issued February 24, 1918, by the Ministry requesting that a study be begun of the general improvements to be made after the war in the operating of railroads, and calling attention to the unfortunate situation—from both a technical and a financial point of view—resulting from the diversity of types of material and equipment in use on the

*Part one of this article was published in the *Railway Age* of August 1, page 191.

six main railroads. Special committees were formed for this purpose, made up of government officials, and representatives of the railroads and private manufacturers. During the meetings held in December, 1918, the Supreme Council of the Ministry of Public Works adopted the following rules for the future:

As regards the "Vignole" or "T" rail; in the future the

only where necessary on account of the various operating requirements and not on account of the fact that they are going to be used by different railroads.

NEW CONSTRUCTION WORK ON THE PRINCIPAL RAILROADS

Included in the new work to be done is the replacing of tracks removed during the war for military needs from the



The Next Step in Placing the Bridge

railroads are to order the following specified weights only:

- 92 lb. rail for standard gage tracks with heavy traffic.
- 72 lb. rail for tracks with average or small traffic.
- 52 lb. rail for meter gage tracks of general interest.

The length of each rail is to be normally 18 meters (58 ft. 6 in.) or in any case a multiple of 6 meters.

As far as the different types of rolling stock are concerned, the Supreme Council of the Ministry of Public Works, and the Minister himself, have declared that this

State, Paris-Orleans, Midi, and Paris-Lyons & Mediterranean. The sum total of the track thus removed amounted to 930 miles divided as follows:

	Miles
Single track lines	217.5
Double track lines reduced to single track lines.....	637.5
Siding tracks	75.

Since the armistice, measures have been taken for the reconstruction of these lines and many of them have already been re-opened. By March 1, 1919, 130 miles of track had



The Last Step. The Light Guiding Structure on the End of the Span Serves to Support the Weight of the Bridge on the Opposite Shore

rolling stock should be standardized on the French railroads in the following way:

(a) The elementary parts should be made uniform, such as truck frames, springs, wheels, tires, axles, couplers, buffers, draft gear, journal boxes, brake rigging, etc., for use in constructing complete cars and locomotives.

(b) Finished locomotives, and passenger and freight cars should be limited to as few types as possible, differentiating

been put back. For the reconstruction of four lines on the Paris-Orleans arrangements were made by the French Government in May, 1919, to purchase 62 miles of 80 lb. rail from available American stock.

The increase in traffic is going to require the railroads to make improvements as regards stations, engine terminals, double tracking of lines, sidings, and in general all railroad installations. The amount of all additional work inter-

rupted by the war, or approved by the Ministry of Public Works and remaining to be done total up as follows*:

State	\$91,730,400
Nord	3,142,000
Est	5,445,200
Paris, Lyons & Mediterranean	36,376,000
Paris-Orleans	7,210,800
Midi	7,836,000
Total	\$151,740,400

acter, the armies constructed, in the regions of the Nord and the Est, 1,030 miles of new lines, made up of 1,002 miles of standard gage track and 28.6 miles of meter gage track. The only one of these lines entirely constructed by the American army is the one from Aubréville to Aprémont, 10 miles long, although two others were done under American supervision—one from Souilly to Courrevre (10.5 miles) and the



The B. S. Type of Bridge in Place

It will be necessary to revise these projects, for some will certainly have to be enlarged on account of the increase in the traffic because of the war, and others reduced owing to the fact that work will be kept which was done by the French and Allied Military Services during the hostilities. It is certain that the cost will in any case be very heavy. Mention should also be made of the fact that Minister Claveille re-

other from Loxeville to Pierrefitte (11.8 miles). Steps have been taken with the railroads and geographical departments interested for having all or part of these lines incorporated in the lines of the principal railroads or in those of local interest.

The following totals show the number of miles and the approximate cost of the lines which the Administration in-



This Shows the Marcille Type of Bridge Ready to Be Swung Across the Span. It Will Be Noted That This is Somewhat Similar to the B. S. Type of Bridge

quested the Est and Paris, Lyons & Mediterranean on February 14 and 18, to particularly consider the new improvements to be made to meet the additional traffic resulting from the return of Alsace and Lorraine to France.

Besides the stations and work of a purely military char-

* On account of the uncertainty of prices, the estimates given here are not very precise. In general they are calculated by increasing pre-war prices 60 per cent.

tends to construct as actively as possible as soon as it has the necessary resources:

	Total length. Miles	Probable Cost
Nord	41.5	\$10,400,000
Paris-Orleans	326.	28,600,000
Paris, Lyons & Mediterranean	200.5	86,440,000
Midi	390.	34,440,000
Other lines	138.	25,200,000
Total	1,096	\$185,080,000

As a result of the war certain modifications have come about in international relations which will require the study of new railroad lines. In this respect, the Supreme Council of the Ministry of Public Works has given its approval, in principle, to the execution of the following work:

Improvement in the present lines to facilitate communications by railroad between Switzerland and the French seaports.

New communications across the Vosges Mountains by connecting the line from Remiremont to Bussang with the line from Kruth to Mulhouse by the construction of a line from St. Maurice to Uesslering; and by the construction of a line from St. Die to Saales.

It has also been judged indispensable to construct a new line between Rouen and Havre in order to develop the Maritime installations of the lower Seine and the Ports of Rouen and Havre.

NEW CONSTRUCTION ON RAILROADS OF LOCAL INTEREST

The Ministry of Public Works is making the same efforts with the railroads of local interest as with the principal railroads regarding the standardizing of track material and rolling stock.

The 308 miles of track removed during the war from railroads of local interest for the military requirements will gradually be put back as soon as the material is obtained.



The Henry Type of Bridge in Process of Construction

It is hoped that this will be finished before the end of the year. The following figures show the new work to be done on these lines:

	Length of lines. Miles	Probable Cost
Work interrupted by the war.....	541.7	\$25,645,400
Work declared of public utility or belonging to projects already approved.....	1,382.8	153,113,400
Totals	1,924.5	\$178,758,800

Inland Waterways, Seaports and Highways

Although inland navigation, sea ports and highways do not belong to our immediate province, perhaps a few figures will be of interest to show the probable future cost of work to be done.

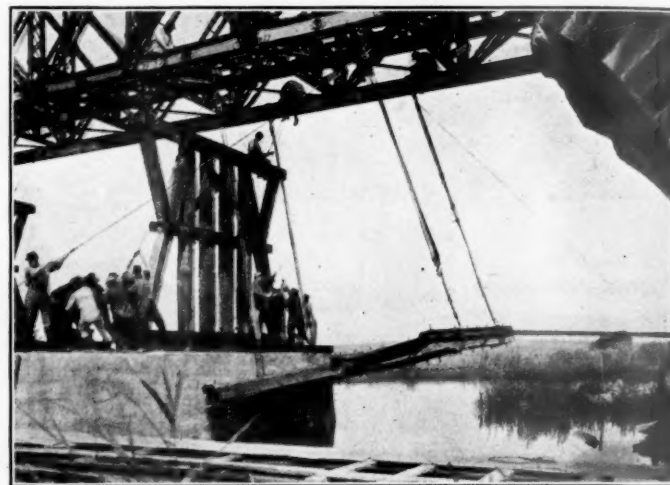
Inland Waterways—In connection with inland navigation, 450 bridges (300 of steel) will have to be reconstructed, 115 canal locks were destroyed or seriously damaged, and 62 miles of canal bed will have to be cleared out and put into shape. The total cost of the work to be done for the restoration of the inland waterways will probably reach \$43,200,000. In general it will take from six weeks to six months to complete the work; but in the case of the canal from the Oise River to the Aisne River, eighteen months to two years will be required to rebuild the great viaduct carrying the canal. In addition to the reconstruction work to be

done on the canals, the following figures show the vast program which is to be carried out:

Work interrupted by the war.....	\$39,976,800
Work approved but not begun.....	30,647,600
Total	\$70,624,400

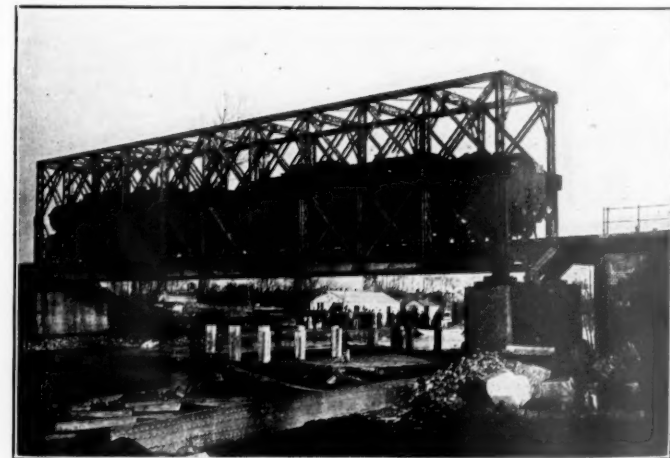
In the work approved but not begun, a figure of \$22 000,000 is included for changes to be made to the Seine River, where it crosses Paris, in order to improve navigation and prevent floods.

Sea Ports.—The ports which suffered most damage during



Method of Supporting the Henry Bridge During Construction

the war are those of Dunkirk, Calais and Boulogne. The damages to the docks, locks, storage yards, etc., as a result of bombardments were not very heavy, amounting to about \$201,800. The damages done to buildings belonging to the port service and the Chamber of Commerce, and to port machinery, etc., are far greater, being \$911,000. If these figures are added to the cost of removal of wreckage and of clearing out these ports, the approximate cost will be \$1,600,-



The Henry Bridge in Place, Supporting Two Heavy Locomotives

000. These figures do not include an outlay of \$14,000,000, made to construct temporary berths in the ports for receiving the supplementary coal imported on account of the destruction of the French mines. In addition to this reconstruction work, the following program is to be carried out:

Work interrupted by the war.....	\$17,072,000
Work approved but not begun.....	89,439,800
Work underway not interrupted.....	16,000,000
Total	\$122,511,800

Highways.—During the war the highways of 19 geographical departments of France were badly destroyed. The following figures will give an idea of the damage done:

NATIONAL HIGHWAYS	
Length of roads to be repaired.....	5,592 miles
Material required	2,900,000 metric tons
Number of bridges destroyed.....	590
Approximate cost	\$30,000,000
OTHER ROADS	
Length of road to be repaired.....	59,650 miles
Material required	7,500,000 metric tons
Number of bridges destroyed.....	1,500
Approximate cost	\$52,000,000

On account of the wonderful work done in keeping up the highways during the hostilities, they can still be used nearly everywhere, but much of the construction work is only temporary and must be replaced. At the time of the declaration of war, a program for improving the national highways was being carried out, involving an expense of \$5,881,600. This is going to be continued. Some of this work has already been begun, and the American army has helped to a



This Shows How the Permanent Bridge Has Been Constructed Under the Temporary Henry Type Bridge Without Interference with Traffic

great extent in certain regions, furnishing the labor, material and means of transportation.

Summary

The following figures show approximately the cost of the program outlined above:

Reconstruction of lines in the War Zone.....	\$456,000,000
New work on principal railroad lines being operated.....	151,600,000
New lines	185,000,000
Work on railway lines of local interest.....	178,600,000
Navigable waters	70,600,000
Maritime ports	122,000,000
Highways	40,000,000
Total	\$1,203,800,000

This cost will be divided between the State, the geographical departments interested, the railway companies, and the communities.

The facts given in this article will go to show the vast destruction wrought by the enemy to the lines of communication in France, and principally to the railroads. The effort to be made in the future for reconstructing and improving them will be immense, but the establishment of adequate means of communication will permit France to rise up out of her ruins more than any one thing. In this work America can be of great assistance, but she should always remember that she is there to help and she should not expect to compete in a way which would be detrimental to the rebuilding of French industries.

The House committee on interstate and foreign commerce has favorably reported the resolution which was introduced by Representative Dyer requesting the Interstate Commerce Commission to investigate the future supply of tie timber and the possibility of using steel ties.

Plumb Plan Introduced as Bill in Congress

THE BILL embodying the "Plumb plan" of organized labor for government ownership and what it pleases to call "democracy in the operation of the railroads," was introduced in the House on August 2 by Representative T. W. Sims, former chairman of the House Committee on Interstate and Foreign Commerce. The bill provides for the following:

1. Purchase by the government on valuation as determined finally by the courts.
2. Operation by a directorate of 15, 5 to be chosen by the President to represent the public, 5 to be elected by the operating officials and 5 by the classified employees.
3. Equal division of surplus, after paying fixed charges and operating costs, between the public and the employees.
4. Automatic reduction of rates if, as, or when the employees' share of surplus is more than five per cent of gross operating revenue.
5. Regional operation as a unified system.
6. Building of extensions at expense of the communities benefited, in proportion to the benefit.

Congressman Sims introduced the bill in the form it was drafted, which in detail, he said, is not to be considered as being textually labor's final draft, but is subject to change and for which suggestions are invited.

"The heads of the four railway brotherhoods and ten affiliated railway organizations of the American Federation of Labor, numbering 2,200,000 men," he said, "have asked me to present this bill. The executive council of the American Federation of Labor was instructed on this matter at its last convention at Atlantic City on June 17, last, to co-operate with the organizations representing the railroad employees."

"The proposed law would leave the valuation of the railroads to the courts, providing review on appeal from the findings of a properly constituted appraisement board. By the decisions of this body or of the courts, it would pay back every honest dollar put into the railroads, issuing therefor government bonds at 4 per cent. It would work at every stage by peaceful, constitutional methods.

"It would establish harmony between the public interest, the interest of the wage earners and capital. It would protect the public against exploitation for the benefit of either capital or labor, and it would assure the public of reductions in rates exactly equivalent to any increase in earning power which the employees might create for themselves by the efficiency of their organization or the skill of their management. This would be the first step in solving the problem of the high cost of living, as the cost of transportation enters into the price of every commodity which is paid by the consumer. Protection against increased rates—assurance of reduced rates—would inspire industry with confidence; would increase the purchasing power of the dollar; and would break the vicious cycle which now exists whereby every increase in wages is reflected in an increase in the cost of production. The plan itself, without committing myself to the details by which it is to be carried into effect, to my mind offers a solution of the railroad problem much more perfect than any other that has been presented."

Warren S. Stone, president of the Plumb Plan League, has announced that Edward Keating, former Representative from Colorado, has been appointed business manager of the league, and that he, with the representatives of the brotherhoods and other organizations in Washington, will devote their efforts to looking after the progress of the bill in Congress. Mr. Stone predicted that within 90 days Congress will have heard from 1,000,000 of the people on the plan. "If the roads are returned to their private owners,"

he said, "the majority of them will be in the hands of receivers within 60 days."

"Labor's railroad bill has the purpose of reducing the cost of living by operating the most important industry in the country for service rather than for profit," says a statement on the Sims bill issued by the heads of the four brotherhoods and the chief of the railway division of the American Federation of Labor.

"Labor faces a persistently serious situation due to the cost of living, and the impossibility of wages keeping pace with the depreciation of money," the statement continues. "No fundamental changes are being advanced to save workers from continual defeat in the economic struggle of life. The railroad employees are in no mood to brook the return of the lines to their former control, since all the plans suggested for this settlement of the problem leave labor essentially where it has stood, and where it is determined not to stand. We realize that in the strife for wage increases we cannot win any permanent victory. It is not money but value which counts. The vicious circle is infinite; increased wages are over-capitalized for inflated profits and the cost of goods mounts faster than the wage level. A few grow wealthy, and the multitude is impoverished.

"Any basic change must begin with the railroads. We believe the interests of labor and the public to be identical in the railroad question. The properties have been operated for the profit of the few, not for the service of the many. Not only have we suffered from inadequate wages, but the public has paid an extortionate tax for transportation, a tax based on inflated values and collected from every person buying the necessities of life.

"Our proposal is to operate the railroads democratically, applying the principles to industry for which in international affairs the nation has participated in a world war.

"It has been argued that labor is merely asking the public to let the workers become the railroad profiteers in place of Wall Street. This argument cannot survive a scrutiny of our proposal. We do ask for a share of the surplus, at the end of each year, after operating costs are met and fixed charges are paid. But we also provide an automatic reduction in rates when this surplus comes to a given level. To restore the surplus, the employees of the railroads must increase the efficiency of their management, and they must invite new business. We should not profit from the railroads as financiers have done; we should participate in the increased earnings from our increased production. We could not earn dividends unless industry as a whole were stimulated by improved transportation service. In our bill, the rights of the public are protected. The rate-fixing power, which is the final check upon railroad management, remains with the Interstate Commerce Commission. If the new corporation should attempt to pay itself excessive returns, and produce a deficit, the lease is forfeitable.

"We assure the public immediate savings. The cost of capital would be reduced from the present 6 to 7 per cent paid to Wall Street, to 4 per cent paid upon government securities. The savings assured under a unified system are enormous. The savings through efficiency, rendered possible only by democratic operation, are even greater. For the increased production resulting from harmonious relations between employees and their managers are incalculable. We believe our plan will reduce transportation charges in surprising measure, and that it is the first and the most important step in any constructive effort to lower the cost of living."

The brotherhood executives and Mr. Jewell issued another statement on Monday, saying in part:

"The innuendoes in telegraphed despatches from Washington, appearing also in the speech of Representative Blanton of Texas, that the railroad unions are 'holding up Congress and the government,' may as well cease.

"This appeal is made to the American people direct. It invokes the judgment and common sense of public sentiment of all the public which earns a wage or a stipend. We recognize that the only way in which we can exist under the present system is to demand further increases in wages, but we agree that this affords but temporary relief. It does not offer a remedy.

"Labor's bill, on the other hand, provides a remedy. That this role originates with labor is merely because labor happens to have firm organizations through which it may become articulate. It is not to benefit labor as labor alone; it is to benefit the consuming public, of which labor at present is the audible part. In labor's bill providing that the public take over the railroads and establish a tri-partite control between the public; the railway operating management, and the employees, the labor organizations of America have established this new policy which envisages their condition, not only as producers, but also as consumers.

"It marks the step by which organized labor passes from demands for wage increases to demands that the system of profits in industry be overhauled. Hitherto during successive wage negotiations and arbitration awards we have called for provisional attention only of questions arising out of differences as to wages, hours and conditions of labor. That principle of genuine co-operation and partnership based upon a real community of interest and participation in control, of which President Wilson has spoken to Congress, has been ignored both by labor and by the private owners of the railroads.

"What wage increases have been received during the past few years resulted only in immediately being followed by more than proportionate increases in the cost of living. Each rise in wages has turned out to mean only temporary relief for the affected workers. When the increases have gone around the circle, labor as producer loses the advantage of the new wages through the additional cost it pays as consumer. Moreover, through compounded profits taken on the wage increases each cycle becomes an upward spiral of costs, which the consuming public vainly reaches to control.

"As the major part of the consuming public, labor is entitled to representation on the directorate of the public railroads; as a producer of capital it is entitled to representation on the directorate of the railroads. To capital, which is the fruit of yesterday's labor, we now propose to discharge every just obligation. We demand that the owners of capital, who represent only financial interest as distinguished from operating brains and energy, be relieved from management, receiving government bonds with a fixed interest return for every honest dollar that they have invested in the railway industry. We ask that the railroads of the United States be vested in the public—that those actually engaged in conducting that industry, not from Wall Street, but from the railroad offices and yards and out on the railroad lines, shall take charge of this service for the public."

The eight-hour day for seamen has already been established by law in France. The Norwegian Legislature is discussing the question. The ship owners and men agreed on the eight-hour day several months ago, and the Shipping Board was forced to follow suit. Seamen on ships from the Pacific coast come into New York regularly, working eight-hour days, while men on other routes work twelve hours. When the eight-hour day is granted here it will only be a short time until England will do the same. On the Pacific coast, where the eight-hour day is in effect, it costs 25 per cent less per ton mile to move cargo, because the seamen are of a better type, more highly skilled, and work together better.—A. Furuseth, president, International Seamen's Union (New York).

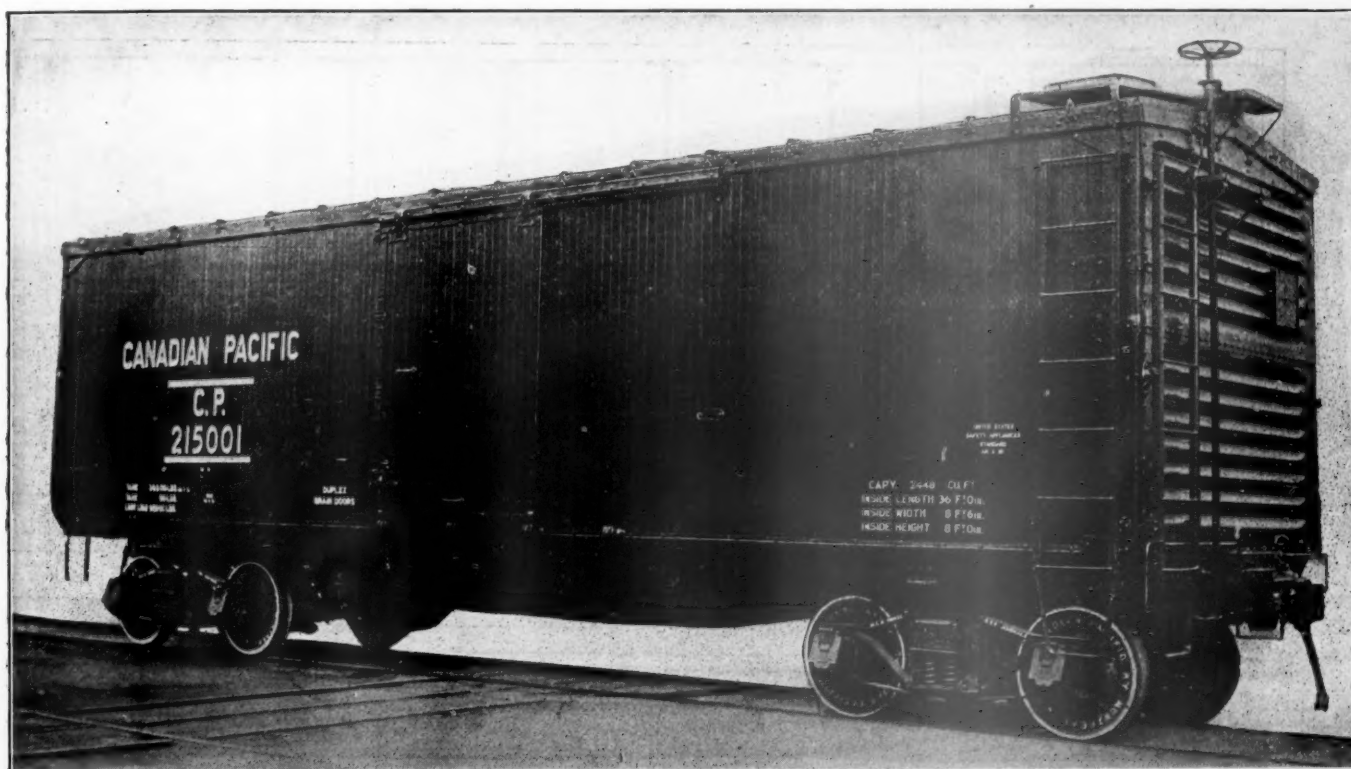
Double Sheathed Box Cars for The Canadian Pacific

Length Inside, 36 Ft.; Weight, 39,500 Lbs.; Steel Underframe,
Wood Superstructure and Metal Roof

THE CANADIAN PACIFIC has built an order of box cars of the steel underframe, double sheathed type, the design of which in a general way is similar to the 40-ton double sheathed box cars designed by the United States Railroad Administration. The Railroad Administration cars, however, have an inside length of 40 feet 6 inches, and a height of 9 feet, with an actual weight of about 46,000 pounds. Owing to the very high average box car load in 36 ft. by 8 ft. cars on the Canadian Pacific, the building of cars of these dimensions on trucks on 5 in. by 9 in. journals, with the additional weight which would thus be required, did not seem to be justified. The Canadian Pacific cars, there-

of the plate. The top of the sills is completed with a $\frac{3}{8}$ -inch cover plate 26 $\frac{1}{2}$ inches wide, which extends continuously from end to end of the car. Bottom cover plates are also applied at each end, extending from the rear draft gear stop through the bolster construction to a point about halfway down the slope of the deepening section of the sills. These bottom cover plates are replaced for the remainder of the length of the car by the inside flange angles, the ends of which overlap the ends of the plates far enough to provide against weakening the section at the point of transfer.

The side sills are 6-inches by 4-inches by $\frac{3}{8}$ -inch angles, with the horizontal flange at the top and extending outward.



Canadian Pacific Steel Underframe Double Sheathed Box Cars

fore, have an inside length of 36 feet and a height of 8 feet, the width in both cases being 8 feet 6 inches. An average tare weight of 39,500 pounds has thus been obtained, which represents a saving of over three ton-miles for each car-mile in the movement of loaded or empty equipment, as compared with the Railroad Administration standard car of similar type. The cars have been designed for a limit load of 92,000 pounds.

Underframe

Like the Railroad Administration cars the Canadian Pacific box cars have steel underframes built up on center sills of the fishbelly type. The center sills are built up of plates and angles, the web plates having a thickness of $\frac{1}{4}$ inch, with a maximum width at the center of 25 inches. Each plate is flanged at the bottom with two $3\frac{1}{2}$ inches by $3\frac{1}{2}$ inches by $\frac{5}{16}$ -inch angles and at the top with a single $3\frac{1}{2}$ -inch by $3\frac{1}{2}$ -inch by $\frac{3}{8}$ -inch angle riveted on the outside

The end members of the underframe are 5-inches by 3-inches by $\frac{5}{16}$ -inch angles placed horizontally, resting on the center sill cover plate and the top flanges of the side sill.

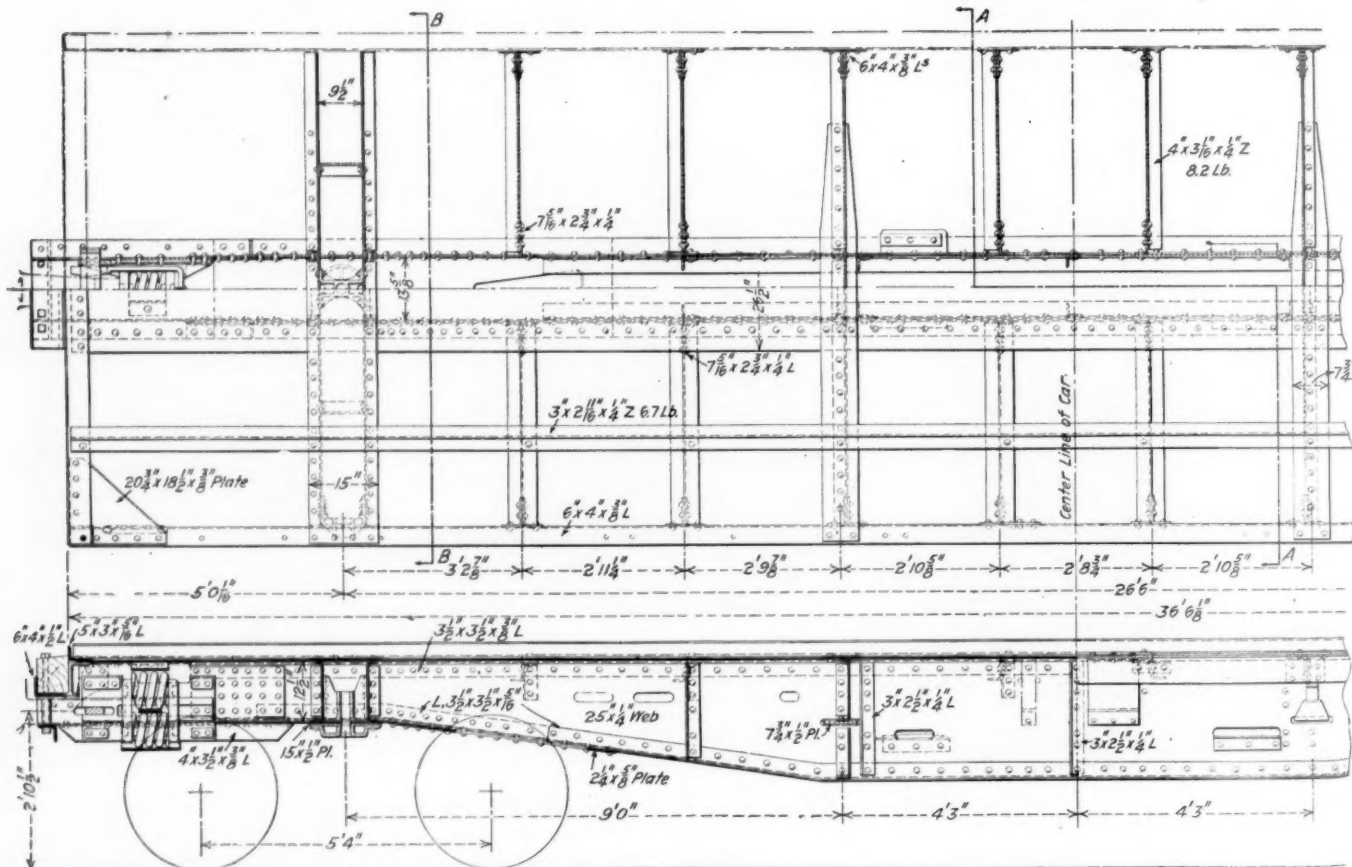
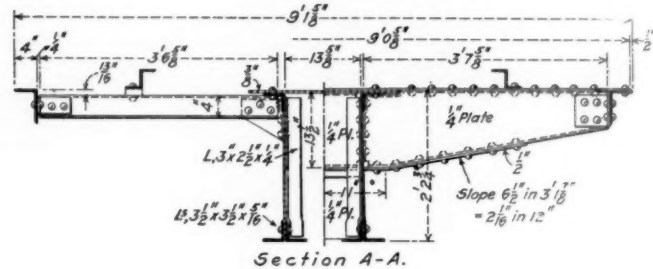
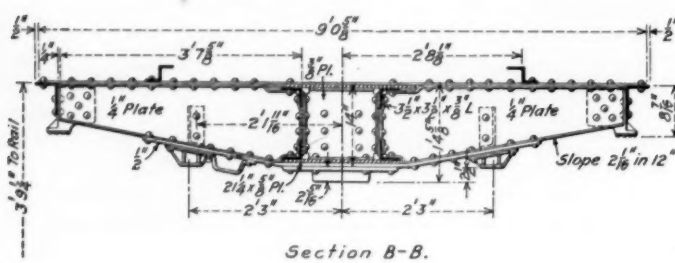
The bolster is of the double diaphragm type. The pressed steel diaphragms are of $\frac{1}{4}$ -inch material spaced 9 $\frac{1}{2}$ inches apart, tapering with a slope of 2 $\frac{1}{16}$ in 12 from a maximum depth at the center of 13 $\frac{1}{2}$ inches. A continuous top cover plate 15 inches wide is riveted at the ends to the side sills and at the center through the center sill cover plate to the top flanges of the sills. Filler diaphragms of $\frac{1}{4}$ -inch material are placed between the center sills and to these is riveted the center plate support casting. A bottom cover plate extends across the under side of the center sills, terminating just beyond the side bearings. The ends of the bolster diaphragms are secured to the vertical flange of the side sills by means of a filler casting to which all three members are riveted. Intermediate cross-ties of single diaphragm section are located at points 4 feet 3 inches from the trans-

verse center line of the car. The diaphragms of these members are of $\frac{1}{4}$ -inch plate with a depth at the center of $13\frac{1}{2}$ inches, which decreases toward the sides of the car with a slope of $2\frac{1}{16}$ in 12. The flanges of these diaphragms are reinforced with a $\frac{1}{2}$ -inch top cover plate $7\frac{3}{4}$ inches wide, extending across the car above the center sill cover plate, and a short, tapering $\frac{1}{2}$ -inch bottom cover plate.

The intermediate floor beams are 4-inch Z-bars, attached at the center and side sills with angle connections and carrying

used for the posts and braces with the exception of the intermediate posts. The wood posts and braces are of 3-inch by $4\frac{1}{2}$ -inch section.

The intermediate posts are 3-inch steel I-beams, these being used for the purpose of providing ample stiffening against bulging when the car is loaded high with grain. The C. P. R. cars also differ from the Railroad Administration cars in that diagonal brace rods are used at each panel section to provide against endwise racking of the car super-



The Steel Underframe of the Canadian Pacific Box Cars

the intermediate longitudinal floor supports of 3-inch, 6.7-pound Z-bars, the web of which is placed 2 feet $8\frac{1}{8}$ inches from either side of the longitudinal center line of the car.

The Car Body

The design of the car body differs from the Railroad Administration cars in that the body frame members are not secured directly to the steel underframe. Above the side and end sills are placed $3\frac{3}{8}$ -inch wood stringers, to which the post and brace pockets are attached with bolts extending through the steel members. The floor is thus raised above the underframe structure, allowing the use of the intermediate Z-bar supports previously referred to.

The side frame members are 3 inches thick, wood being

structure. The side plates are of 7-inch by $3\frac{1}{2}$ -inch section, while the end plate is formed integral with the corrugated steel end of the car.

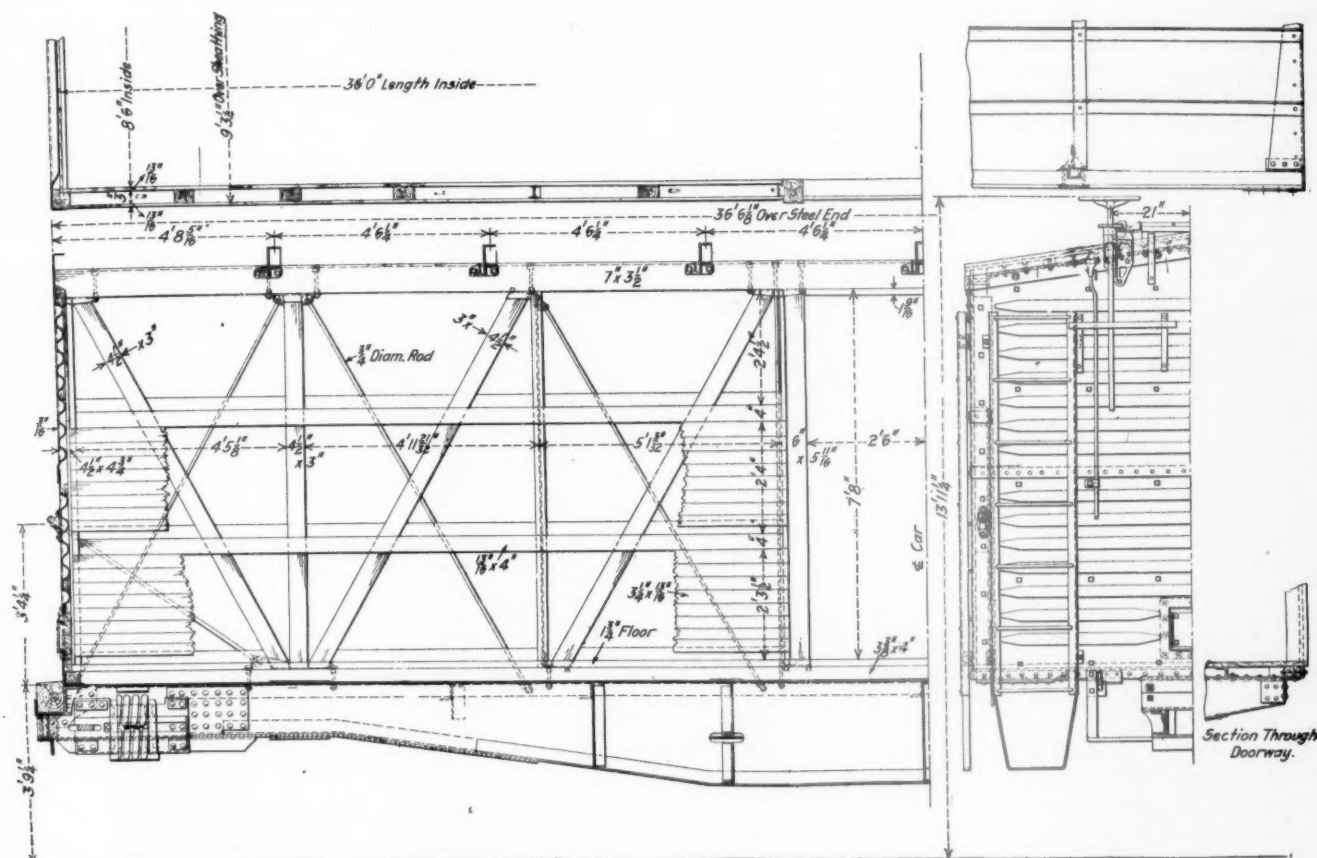
The outside sheathing is standard $13\frac{1}{16}$ -inch tongued and grooved material nailed in the usual way, and in addition to nailing, it is further secured at the side sill by a steel angle bolted at frequent intervals. There are two girths on each side of the car, and the inside lining is carried up to the second girth, 5 feet $3\frac{1}{2}$ inches above the floor. The ends are lined full height with tongued and grooved lumber $13\frac{1}{16}$ inch thick, which is placed vertically and nailed to strips secured in the bottoms of the steel end corrugations by means of bolts, the outer ends of which are riveted to the steel end sheet.

The side-door openings are 5 feet wide. The doors are of wood, bound with metal on all of the edges. The band at the back edge of the door is arranged to engage with the strip on the back door post, forming an effective weather and spark strip and further securing the door from bulging outward. The front stops are of wood, braced with malleable brackets. The locking arrangement is of the combined lock and stop type equipped with a door starting lever. Two

for both roofs are of 4-inch angles, which are attached to the side plates by means of malleable brackets. These brackets are secured to the plate by two horizontal bolts, with the nuts on the inside of the car and the head secured from turning by a flanged double washer plate back of the fascia board.

Trucks

The cars are fitted with trucks of the arch bar type with a



End and Sectional Views Showing the Body Construction

handles are provided on each door, one on the bottom for track level operation and the other near the center girth for platform operation.

Two types of roof are applied to these cars, one an outside metal roof and the other an inside metal roof. The carlines

wheel base of 5 feet 4 inches, and 5-inch by 9-inch journals. The bolsters are the Simplex type, with long column guides to provide the maximum area between the bolster and the cast steel truck columns. The trucks are fitted with roller type side bearings.

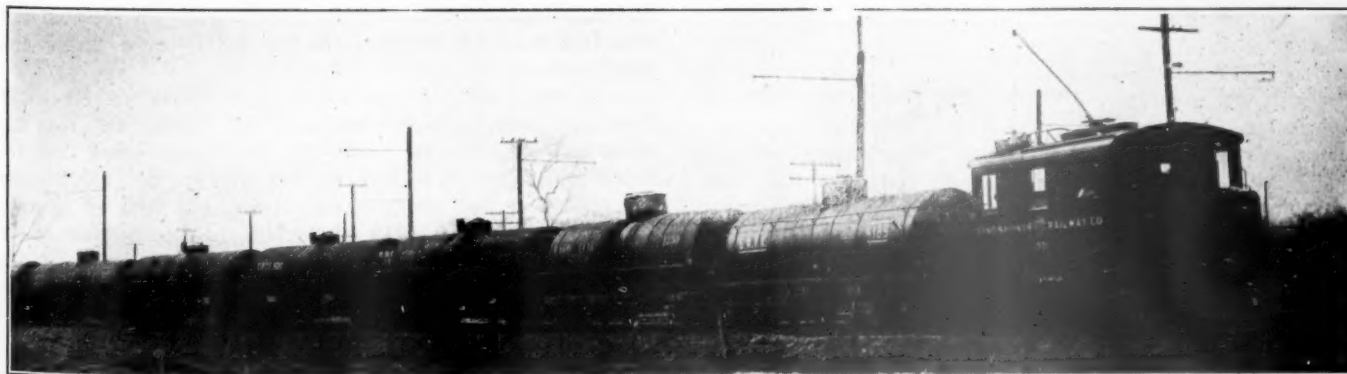


Photo from Underwood & Underwood, N. Y.

Hauling Freight on Electric Railways

An electric locomotive pulling an oil train on the Sand Springs Railway in Oklahoma

Turn Around Service on The Western Maryland

ON FEBRUARY 10, 1919, the Western Maryland inaugurated an innovation on its Hagerstown division which has been a decided factor in reducing the cost of operation.

The innovation was the adoption of "Turn-Around" service between Hagerstown and Cumberland, a round trip distance of 160 miles. The westbound opposing grade is 6 per cent and the eastbound opposing grade is 3 per cent. Cumberland to Williamsport 73 miles, with seven mile helper grade (1.1 per cent) Williamsport to Hagerstown.

In former years power was called at Hagerstown and run to Cumberland and there tied up for rest before resuming the eastward trip. There was no incentive for crews to make a good run westbound as they knew they would be tied up for rest on their arrival at Cumberland. In some cases crews made terminal overtime before being called for the eastward journey.

With the advent of turn-around service, the incentive of "breakfast and supper at home" was put before the men with a result that they entered into the plan determined to help make it a success. Of course, the same rate of pay was maintained for the new service as they had obtained from the old: viz.: Minimum of 100 miles, or eight hours for the run in each direction. In order to successfully make the run, experiments proved that it would be necessary to relieve the men on westbound trips for one hour and thirty minutes after putting engine on ash track at Cumberland, in order to clean the fires, coal and water the engine, and allow men time for breakfast or lunch.

The Hagerstown division includes the line between Hagerstown and Cumberland, but the Cumberland terminal is included in the Elkins division, and it is therefore necessary that the two divisions work very closely together in order to avoid delay in despatching eastbound loaded trains from Cumberland on the return movement to the home terminal at Hagerstown. Another interesting feature was the fact that at no time was the tonnage or the number of cars reduced to enable good runs. All trains moved 100 cars when available with approximately 2,500 tons on the westward trip; these consisted of empties as a rule. On the eastward runs trains were given 100 loads and handled successfully trains of 7,200 tons. The average tonnage eastward, however, was between 6,600 and 6,700 tons.

These trains were all handled by Mallet locomotives and on the eastward trip were helped by the same type of locomotive from Williamsport into Hagerstown, a distance of seven miles.

The following figures show conclusively the reduction of hours on duty for the four months of 1919 as compared with the same months of 1918:

Month.	Year	Average time on duty			Average cars and tons handled			
		West	East	Both ways	West		East	
					Cars	Tons	Cars	Tons
<i>Turn-Around Service, 1919</i>								
Feb.	1919	8' 52"	9' 58"	18' 50"	91	2,695	100	6,823
March ..	1919	7' 33"	8' 23"	15' 56"	94	2,592	99	6,739
April ...	1919	7' 18"	7' 40"	14' 58"	88	2,557	100	6,687
May	1919	7' 09"	7' 41"	14' 50"	92	2,487	99	6,781
<i>Single Trains Operated 1918</i>								
Feb.	1918	14' 30"	14' 35"	29' 05"	78	2,182	92	6,435
March ..	1918	14' 12"	12' 06"	26' 18"	78	2,106	85	5,962
April ...	1918	12' 37"	11' 36"	24' 13"	92	2,593	95	6,547
May	1918	12' 17"	10' 56"	23' 13"	91	2,582	94	6,642
4 mos....	1919	7' 39"	8' 21"	16' 00"	91	2,572	99	6,755*
4 mos....	1918	13' 16"	12' 18"	25' 34"	86	2,384	93	6,395†

* Equals 10 miles per hour.

† Equals 6 1/4 miles per hour.

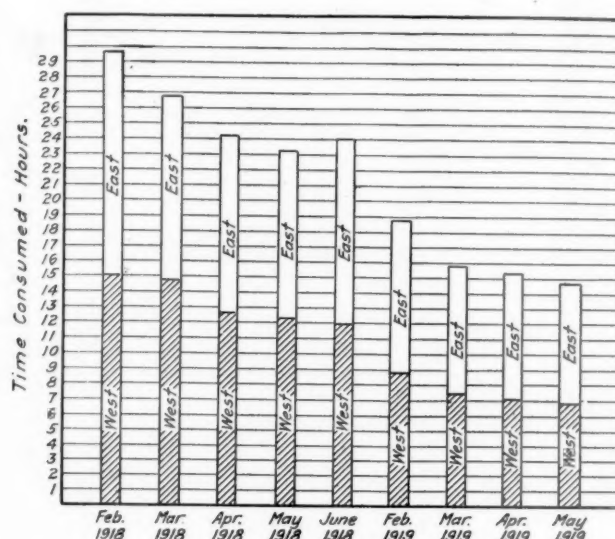
A number of trips were made under 12 hours and the best one was made by Conductor Wm. M. Manning and Engineer W. W. Waite with engine 921 on April 17. The time consumed

was 5 hours and 45 minutes west and 5 hours and 30 minutes east making the round trip of 160 miles in 11 hours and 15 minutes with 101 loads—6,182 tons east. On March 26, Conductor T. Wilhide and Engineer G. E. Alsip with engine 918 made the round trip in 11 hours and 35 minutes with 100 empties 2,000 tons west, and 100 loads 6,780 tons east.

The trains were carefully inspected before leaving each terminal, particularly in regard to high and low couplers, truck frames and to guard against hot boxes. The conductor in charge of train reported promptly any car that became defective between terminals, stating cause of trouble and giving car inspector's number. This information was handled by the chief despatcher by telephone, and the proper officer gave the matter immediate attention.

Daily detail reports of each complete "turn-around" were made and sent to all officers interested, so that a careful study could be made of the delays and proper remedy applied to improve the operation.

Close co-operation existed between officers and men in



Performance of Tonnage Trains Between Hagerstown and Cumberland

engine and train service, and many suggestions were made by the employees which resulted in elimination of delays and improvement of the service. The average daily performance for April and May 1919 is unusual in handling tonnage trains. It will be noted that about 100 loads were moved east and 90 empties moved west on each train, and that the average time actually in service for handling approximately 190 cars on the west and eastbound legs of the turn-around and running 160 miles with a helper grade on the east end was less than 15 hours, including all delayed trains and relief crews used.

The most reliable measuring stick today in efficiently handling tonnage freight trains is the number of gross ton miles moved per crew hour, and it will be noted that for April and May 1918 there was an average of 31,000 gross ton miles handled per crew hour compared with an average for April and May 1919 of 49,700, or an increase of 60 per cent in gross ton miles moved per crew hour, by the turn-around plan compared with the handling of traffic by single trains.

The Railway Fire Protection Association will hold its annual meeting at Chicago on October 21, 22 and 23. The executive committee of the association is now preparing the program for the meeting.

The Design of Modern Locomotive Repair Shops*

A Study of the Considerations Entering Into an Efficient Layout for the Maintenance of Engines

By Gaustave E. Lemmrich

Layout Engineer, the Austin Co., Cleveland, Ohio

A MODERN LOCOMOTIVE REPAIR SHOP should be a plant of well balance proportions, with conveniently arranged sub-departments, equipped with up-to-date tools and appliances, and capable of repairing the maximum number of locomotives per year. On the other hand, the financial condition of the railroads as a whole has largely prevented the application of these ideas to recent locomotive repair shop construction. The need for additional shop

or at the sole terminal of a short or belt line, where general repair work, on a small scale, has to be included in its functions.

2. A locomotive repair shop for overhauling locomotives only.
3. A locomotive repair shop as a part of the general repair shop of a district on a large railroad or as the main shop of a small railroad.



The Erecting Bay of a Modern Locomotive Shop

capacity is now pressing, and with financial relief in sight, undoubtedly many improvements in this direction will be undertaken.

In view of the cost of the U. S. standard locomotives ranging from about \$36,000 for the light switching engines to practically \$100,000 for the heavy Mallets, it is evident that every day a locomotive is held out of service because of a lack of proper repair facilities creates a heavy charge. There are still in operation quite a number of antiquated locomotive repair shops which should gradually be replaced by modern facilities.

The Functions of Locomotive Shops

The functions of a locomotive shop may vary from comparatively small repairing and some overhauling in an important engine terminal to complete overhauling in a general locomotive repair shop, or to a locomotive manufacturing plant. Locomotive shops may be classified as follows:

1. A backshop at a very important engine terminal

4. A locomotive repair shop in connection with some new locomotive building.
5. A locomotive shop for new locomotive construction or a locomotive manufacturing plant.

The scope of the work to be performed is more or less different in each of these five classifications and the layout will need correspondingly different treatment to produce maximum efficiency in each case. However, the principles governing the design of shops of the third and fourth classes enumerated above are closely similar to those of the second class, with the exception of the layout, which, of course, is more complicated and demands careful study for a practical solution, while the number of locomotive manufacturing plants built by the railroads is so few as to be practically negligible. For this reason the discussion which follows will be confined to shops of the first two classes

The Back Shop

Generally speaking, a back shop is the result of greatly enlarging the machine shop of an engine terminal. The

*Copyrighted, 1919, by the Austin Company, Cleveland, O.

modern, heavy, costly power requires efficient attention and maximum employment. To accomplish this, modern tools, appliances and housing are required, together with an organization to make this investment effective. But to warrant all these costly improvements and above all the organization, it has to be proved and demonstrated fully that the location is in fact the right one. Undoubtedly, one of the most important factors affecting location is the expense due to overtime resulting from the Adamson law. A thorough investigation of this question will frequently show that great economy will result from an entire relocation of terminals and a revision of engine runs. One thing, however, is quite sure—the heavy power has put the drop pits out of date, and that means the installation of a locomotive hoist or a heavy crane in a back shop.

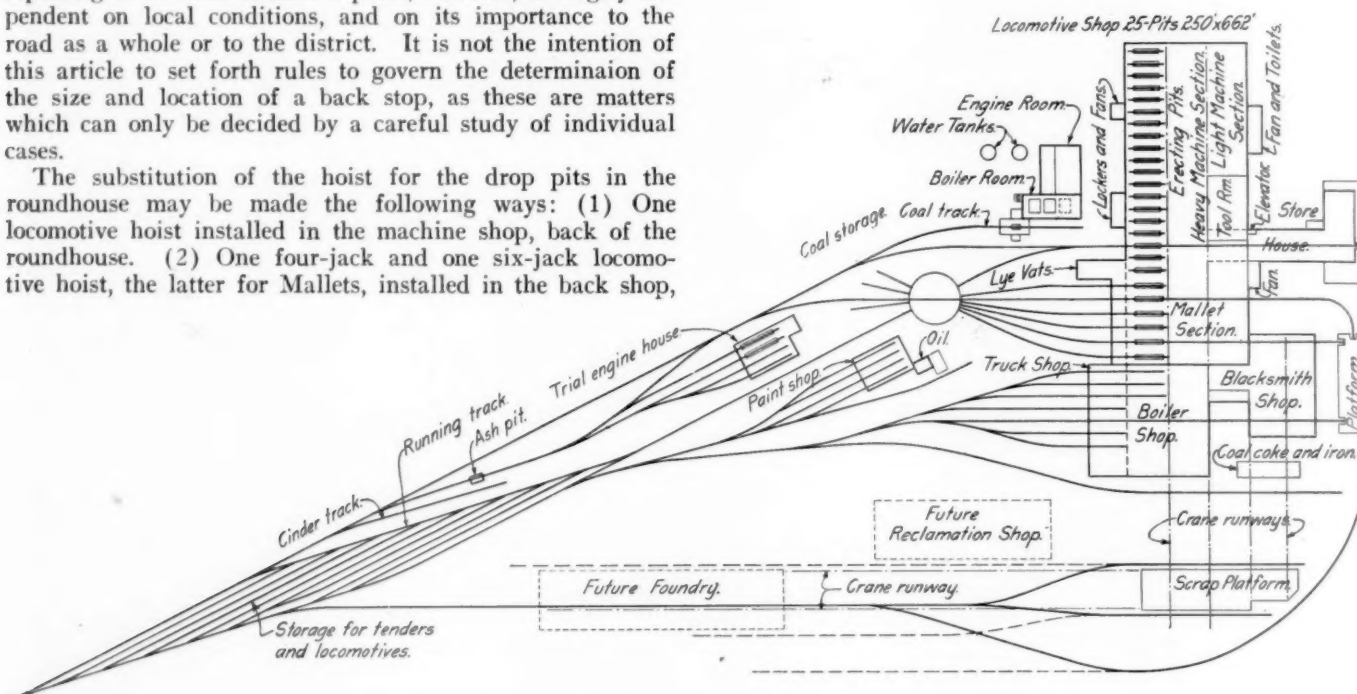
A back shop should be seriously considered for any important engine terminal with a preponderance of passenger traffic, or with some passenger runs of about 200 miles and for terminals at important junction points. The scope of repairing to be done at such a place, however, is largely dependent on local conditions, and on its importance to the road as a whole or to the district. It is not the intention of this article to set forth rules to govern the determination of the size and location of a back shop, as these are matters which can only be decided by a careful study of individual cases.

The substitution of the hoist for the drop pits in the roundhouse may be made the following ways: (1) One locomotive hoist installed in the machine shop, back of the roundhouse. (2) One four-jack and one six-jack locomotive hoist, the latter for Mallets, installed in the back shop,

close to the roundhouse, or, better, it should be connected to the roundhouse by a passage way. In addition to the back shop the repair department of the terminal should embrace a complete working unit in buildings and equipment. Its magnitude, of course, will depend on the importance of the terminal, its location relative to other repair facilities, and, in fact, on many more or less deciding factors.

Generally, the machine shop is enlarged to embrace erecting, heavy and light machinery sections. The erecting bay section in small layouts is sometimes of the longitudinal type with one or two tracks, but the transverse type is more generally adopted. The shop's dimensions should be fixed according to its demand. In the transverse shop the pits may be spaced 22 ft. or 24 ft. apart, and the erecting aisle width may be 80 ft. or even 90 ft. wide. The height from the floor to the under side of the roof trusses may vary from 36 ft. to 58 ft., depending on the size of the cranes and importance of the terminal.

The size of the machine shop should correspond to its



Proposed Layout for Locomotive Repair Shop Facilities

with additional shop area and tools, which will result in an increased cost above that for the drop pits of about \$40,000, or infixed charges, at 11 per cent of \$4,400 per year. (3) One six-jack locomotive hoist for Mallets, one 100-ton crane serving four pits, a few heavy tools, and a full equipment of light tools installed in some additional shop area near the four pits. This will cost about \$90,000 above that for the drop pits, or in fixed charges, at 11 per cent, or about \$10,000 per year. Assuming an engine terminal with an average of 100 engines per day for about 300 days per year, or an average of 30,000 engine days per year, the second scheme will result in an additional fixed charge of 15 cents per engine per day, while scheme No. 3 will result in an additional fixed charge of 33 cents per engine per day. The selection of the scheme or more elaborate improvements should be considered as entirely dependent on existing local and other prevailing conditions.

Sometimes the back shop is operated in connection with a transfer table, but the need for this should be investigated in each case. In many instances a transfer table will prove a very desirable and satisfactory accessory, even though the shop is of the lift-over type. The shop should be erected

sphere in the terminal and its place in the railroad as a whole. Its present and future possibilities and the character of power to be repaired have an important bearing on the size of the machine shop. The possibilities of doing some boiler repairing should also be considered. Quite often this may be done at one end of the erecting shop. If separate buildings are required for the blacksmith shop, storehouse and office, their location and size should be studied in each individual case on broad lines as outlined before. The power house, however, should be a separate building, incorporating such features as were outlined in the article on engine terminals, published in the *Railway Age* of March 14, page 587.

The Locomotive Repair Shop

The locomotive repair shop referred to in the second classification above is intended for repairing locomotives only. In analyzing the scope of work done in a general repair shop, on locomotives, coaches and freight cars, it will frequently be found that a separate locomotive repair shop is more economical. In a general repair shop, the work in the three departments is so different in character that it requires sepa-

rate organizations, except perhaps where coach and car repairs may be combined so that separate buildings and possibly a different location may be more satisfactory from an operating standpoint.

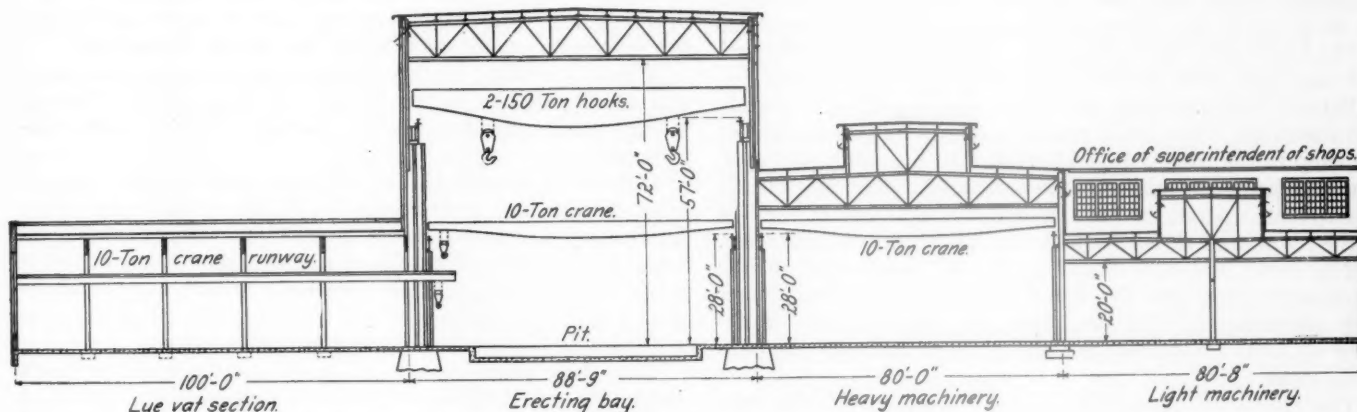
In case separate shops are desirable they can be located at points most suited to each special case. The selection of a location is usually a question for each road to decide, and it should be based on operating requirements material and labor markets, suitable available sites, the amount of grading, its drainage possibilities and the cost of providing a sufficient water supply. On larger systems the tendency seems to be to divide the spheres of the shops into districts. The size of the shop depends on the number of engines tributary to it and the average number of engines to be repaired per year. A modern locomotive repair shop should be so laid out that it would have an average output of two locomotives per pit per month.

There is still some controversy regarding the relative merits of the longitudinal and transverse types of repair shops. In the first years of the modern locomotive shops, it was a mooted question as to which of these two types was best suited for a contemplated plant. In these years of infancy the longitudinal shop with its middle communicating track demonstrated its good points, and its flexibility, in capacity,

shops of this type can be operated with or without a transfer table, but in the larger shops the lift-over type is more generally applied. Where very large shops are desired, double erecting bays, one on each side of a central machine shop, have been installed. Plants of this design are special and require individual treatment. Each case should be treated on its own merits. A very close study in all its details of the operation of a modern locomotive shop, its organization and the location of assembling and disassembling pits, lye vats, tools, tool room, storage of wheels, etc., is of the utmost importance.

The width of the erecting aisle should not be less than 80 ft., and 90 ft. is preferable; this width now being adopted by some important lines in their latest shop layouts. The distance between columns has now been increased to 24 ft. and 25 ft. To utilize the end pits for the heavy crane service a distance of 30 ft. to 35 ft. is required, and this width would be quite useful at the stripping and assembling pits. The height from the floor to the under side of the truss should not be less than 58 ft. while a 71-ft. vertical clearance will permit simultaneous operation of both cranes, the heavy one carrying a locomotive. In a long shop this latter arrangement is of more importance than the extra cost involved.

For the heavy Mallets a width of 90 ft. may be somewhat



Cross Section Through Main Shop Building

but as soon as the crowding of locomotive repairs began, trouble arose. Cost statements, output, etc., of those days are of little value today, as the conditions and requirements have entirely changed.

It may be of historical interest to refer to statements by R. H. Soule in a series of articles in the *American Engineer*, 1903, which gave different longitudinal shops considerably larger outputs than a certain number of transverse shops. The comparisons were not based on exactly equal terms, and it looks as though a great share of the early favor for the longitudinal shop was largely due to its relatively greater machine shop area per engine as compared at that time with the transverse shop. This was at that stage in locomotive shop operation when the middle track was totally or partially kept open. The transverse shop had a width of the erecting bay proper of about 65 ft. and this quite often necessitated encroaching on the already limited area of machine shop space. Moreover, sometimes the decision for a layout was influenced more by the preference of motive power officers on questions of organization, shape of available property, track arrangements, etc., than by the real advantage of the type of shop. Lately some railroads that were inclined to favor a longitudinal arrangement have prepared or built shops of the transverse type.

One of the most important features of the transverse shop is that the machine aisle, through its traveling cranes, is readily accessible to any locomotive on any pit. The smaller

scanty, but this can be overcome by locating a Mallet section with a lean-to at the front. It is a question whether this lean-to should not be extended for the whole length of the shop. A so-called covered bay may be well worth special study in some individual cases.

Lean-tos, besides that required for the Mallets, are also suggested for the stripping and assembling sections and they should extend over one adjoining pit each side. The lye vats can be placed in the latter sections, and a crane extending into the erection bay should be installed in it. By this arrangement material to be cleaned in bulk can be transferred directly from the stripping pits into the lye vats.

In the erecting bay proper the capacity of the heavy crane has now been increased to carry two 125-ton hooks, and the next step will probably be to a crane with two 150-ton hooks. The type of general service crane used is commonly of 10 tons capacity.

The size of the machine shop is a controlling factor in the output of the entire plant. An area of 4,000 sq. ft. per pit of the erecting shop seems generally to be considered the correct relation under normal conditions, to produce a satisfactory working unit, and obtain maximum output. This area was suggested by G. W. Wildin in 1905, and is now adopted in some of the larger shops. However, there are many other points which might influence this question, such as the extent to which repair parts are manufactured for other smaller shops. As mentioned before, the question of

the size of the machine shop is of such magnitude that it demands careful study in each particular case.

The capacity of the cranes in the heavy machine shop section is generally 10 tons. In many cases a layout will produce more satisfactory results if these crane runways are extended to the outside of the shop. The heating plant for the locomotive shops should be of the hot air type operated by a fan. A division in units may prove to be economical in first cost and operation.

By locating the boiler shop in a building adjoining the erecting shop, partitioned off but arranged with electrically-operated doors, the heavy crane runways in the erecting aisle may be extended into the main aisle of the boiler shop. This will permit the heavy crane to transfer boilers into this shop, and at the same time the noise incident to the boiler shop is confined. The machine shop crane may also be extended into an aisle of the boiler shop, and should be extended through this building to the boiler plate storage and to the scrap platform. This will greatly facilitate the handling of material, scrap, etc. In the first stages of operation it may also save a few cranes.

The truck shop can be located in the bay in front of the boiler shop proper. It should be provided with a crane of such capacity as will be in line with a possible future greatly increased length and load capacity of locomotive tenders. An 80-ft. width for the truck shop appears to be about right.

The blacksmith shop should be well lighted and ventilated and equipped with modern tools and appliances. The installation of an overhead traveling crane is perfectly feasible and desirable. The crane runways should extend outside of the shop to the iron storage sheds and to the scrap platform, thus increasing the sphere of its usefulness. The size of this department depends on the size and requirements of the rest of the plant, and each case will require special consideration.

The scrap platform should be located convenient to the blacksmith shop, and for the delivery of scrap from other shop departments. Its size, bins and other accessories depend on local conditions, and should have facilities for handling scrap.

The storehouse should be located convenient to the machine shop. In the tentative layout it is placed back of the tool room and directly connected to the machine shop. It should be of reinforced concrete construction with concrete retaining walls, concrete floors for the house, platforms, etc. It can be of two or three stories, according to local requirements, utilizing the upper floor for the offices. In the tentative layout the offices are located in the upper story, beside the machine shop. The private office of the superintendent of the shop can be in an upper story over the light machinery bay, which location will furnish a perfect view of the entire shop. The storehouse should be equipped with elevators, vaults, etc.

If the location of the plant is somewhat isolated, a restaurant for the employees on the top floor of the storehouse might be well worth serious consideration. Provisions for a lecture hall, apprentice room and a technical library will also be along modern lines. There are numerous repair parts which are usually stored outside. Suitable shelters for these should be provided wherever desirable, and they should be readily accessible for receiving and delivering materials.

The points regarding the design of a power house suggested in the article by the writer on the design of round-houses in the *Railway Age* of March 14, page 587, apply here also, except that the power house should be designed on lines proportionate to its greatly increased importance. The track hopper should be housed, permitting the unloading of coal under all weather conditions. Coal storage should be provided for about two months supply. The coaling installation can be extended to include a coal pocket and sand storage facilities for engines requiring trial trips. Near the power house one or two water tanks of such capacity as the local

requirements may demand can be provided, thus furnishing further facilities at this point for outgoing engines on trial trips.

In case the locomotive shop is not located at or near an engine terminal, these facilities should be provided for engines requiring trial trips after they have been repaired. In the accompanying sketch for a tentative layout of a locomotive plant, such an engine terminal is indicated. The engine house is rectangular, about 80 ft. by 110 ft. in plan, although this size can be changed as local conditions require. A small ash pit is also indicated on the plan which may be of the water type, but of such design as to correspond to its purpose. This pit may be operated by a locomotive crane, which, in a plant of this character, is a most useful appliance.

Sometimes it is found desirable to have a small paint shop in a separate building. The plant also requires an oil house of such proportions as local conditions require. It should be a fireproof structure, similar to the one outlined in the article on engine terminals referred to previously. The oil house might be combined with the oil room of the paint shop, if it could be so located as to make this arrangement feasible. This plan would also save an organization.

Unless the locomotive plant is situated at an engine terminal or near an existing wye, there should be at least a 100-ft. turntable. Studies and plans should also be prepared for a drainage and sewerage system, and also for water supply and fire protection, including a house for the fire department.

A good operating track layout is of great importance to an efficient locomotive repair plant. In the tentative layout, storage tracks for locomotives, tenders, materials, etc., are indicated.

It is very desirable to have an easy approach for automobiles, trucks and pedestrians to the storehouse and office. Driveways laid out for fire protection, without having to cross a net work of tracks, are also important. At some points, because of conditions, overhead bridges may be necessary for proper fire protection. The tentative layout represents practically an ideal condition in this respect.

The whole plant should be fenced and the main entrances for tracks, automobiles, employees, visitors, etc., should be controlled if possible at one point where a gateman's house should be provided. It is needless to say that the plant should be equipped with telephones, and wherever required, with telegraph service. The vacant grounds not used for storage should be treated in some pleasing way, suitable for recreation. Some inexpensive landscape gardening may be worth considering.

The layout should be so arranged that reasonable extensions are feasible, in line with good operating practice, and so they can be made without any serious alterations. Sufficient property should be secured at the start to make future extensions possible.

Features of the Accompanying Layout

The tentative layout of a locomotive shop accompanying this article is planned for handling the repair of 600 locomotives per year. The shop is based on 25 pits which should handle two engines per pit per month.

The main features of this layout are a plant of liberal proportions embracing all departments under one roof in order to reduce the travel and the handling of material between departments to a minimum. The departments are separated by partition walls, but arranged for continuous crane runways and crane service, which also extends to the outside material store yards and scrap platforms. This plant was laid out in one unit on the continuous mill plan to produce the maximum output.

The incoming engines drop their tenders on the storage tracks provided for that purpose, and then proceed over the turntable to the disassembling pits. The lye vats are located beside these, but in a lean-to, which can be closed by elec-

trically-operated doors to prevent the spread of bad odors to the erecting way. The machine shop is of such dimensions as to permit a liberal allowance of space for tools and at the same time provide reasonable storage room.

Approximate Estimate of Cost of a Locomotive Shop for Repairing 600 Locomotives Per Year

	Cost	Percentage of total cost
Grading, drainage and track.....	\$120,000	4.6
Locomotive shop—		
Erecting bay	\$375,000	
Machine shop bays.....	235,000	
	610,000	23.4
Boiler shop	240,000	9.2
Blacksmith	75,000	2.9
Storehouse—		
65 ft. by 220 ft. } 2 stories	105,000	4.0
60 ft. by 80 ft. }		
Powerhouse, including thawout house, track hopper, coal and ash-handling piping, stack, etc.....	85,000	3.3
Paint shop, oil houses and engine terminal.....	60,000	2.3
Scrap platform, material sheds and outside crane runways	30,000	1.2
Water supply, fire protection	30,000	1.2
Misc. fencing, driveways, concrete walks, etc.....	20,000	0.8
Cranes	155,000	6.0
Total	\$1,530,000	
Shop tools and equipment.....	\$630,000	24.2
Power house	180,000	6.9
Cost of property, interest during construction, eng., etc.	260,000	10.0
Total	\$1,070,000	
Grand total	\$2,600,000	100.0

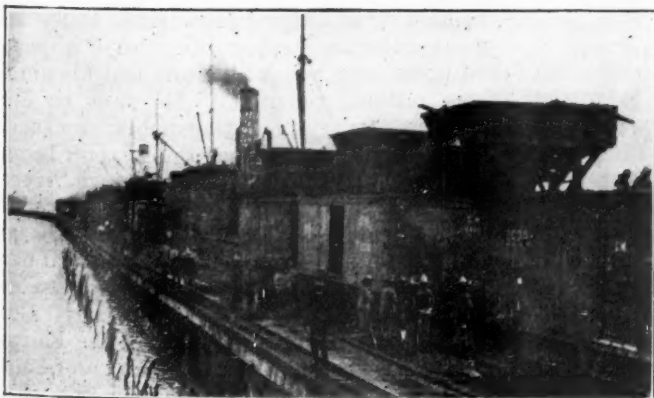
This estimate, which indicates the respective percentages of the main items, shows that an increase in the size of any particular building or facility would change the percentages only slightly, and at the same time might lead to improvements more fitting to local conditions which would result in increased output.

Comparative Proportions of Lemmerich Layout With That of Walter Berg*

	Lemmerich layout		Berg	Relative size of four departments in percentage of erecting bay			
				Lemmerich		Four departments	
	Total sq. ft.	Sq. ft. per pit	Sq. ft. per pit	Lemmerich	Berg	Lemmerich	Berg
Erecting bay (90 ft. by 662.5 ft.).....	59,625	2,385	1,750	100	100	23	25
Machine shop (160 ft. by 662 ft. 5 in.)...	106,000	4,240	2,450	178	140	42	35
Boiler shop (250 ft. by 230 ft.).....	57,500	2,300	1,575	96	90	22.5	22.5
Blacksmith	32,000	1,280	1,225	54	70	12.5	17.5
Total four depts....	254,125	10,205	7,000	428	400	100	100

Note.—Mr. Berg's blacksmith shop is designed for a general repair shop with car departments.

*Mr. Berg's figures are taken from his book, American Railway Shop Systems.



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Scenes from Foreign Ports—On the Docks at Tampico, Mexico

Doings of the Railroad Administration

THE RAILROAD ADMINISTRATION has executed a compensation contract with the Delaware, Lackawanna & Western, providing for an annual rental of \$15,749,-476; also co-operative short line contracts with the Weatherford, Mineral Wells & Northwestern and the Denison & Pacific Suburban.

Six Months Deficit \$296,000,000

Director General Hines has authorized the following regarding the June earnings:

"Detailed statistics will shortly become available of the operating results for the month of June of practically all the Class One railroads and large terminal companies in Federal operation. These results will indicate that the net operating income for the month of June, 1919, was about \$51,800,000. After allowing for one-twelfth of the annual rental due the railroad companies whose railroads are covered by these statistics, the net loss to the government on account of these properties was for the month of June about \$23,000,000.

"The corresponding net loss for these same properties by months of the present calendar year has been as follows:

Month	Net loss to the Government after allowing for one-twelfth of the annual rental
January	\$57,782,557
February	65,430,850
March	64,881,856
April	48,757,057
May	36,249,334
June	23,000,000
Total	\$296,101,654

"The falling off in freight business as compared with the years 1918 and 1917 continues to be an important factor. This is indicated by the following comparison of net ton miles per mile of road per day:

	Net ton miles per mile of road per day		
	Revenue and non-revenue		
	1919	1918	1917
January	4,275	3,878	4,770
February	4,002	4,591	4,511
March	4,059	5,273	5,192
April	4,134	5,471	5,257
May	4,524	5,226	5,617
June	4,615	5,423	5,694
6 months ended June 30.....	4,266	4,975	5,081

"The month of June, 1919, shows a slight improvement over May, 1919, both with reference to the actual business handled and the relation to the corresponding month of 1917.

"The unfavorable showing also continues to be due in part to the fact that the increase in rates has been on a much lower percentage than the increases in wages and prices of materials."

Orders of Regional Directors

COOLING OF HOGS.—The Southwestern regional director, in order 225, gives instructions for drenching hogs in cars, especially during the present heavy movement.

Examination of Drinking Water.—Circular 232 of the Southwestern regional director promulgates a complaint of the Surgeon General that the Bureau of Public Health Service and also many of the state departments of health, making examinations of water supplies used by railroads for drinking and culinary purposes, are having difficulty in securing the co-operation of railroad officers; containers are not promptly returned.

Forty-ton Wooden Coal Cars.—The Southwestern regional director, in order 224, calling attention to light capacity coal cars now out of the service, says that wooden cars of 80,000 lb. or less capacity can be used for transporting company material.

Safety Chains on End Doors.—Order 227 of the Southwestern regional director promulgates a note from

the Safety Section of the Railroad Administration recommending that chains or some other suitable device be applied on automobile cars with end doors to prevent these doors from opening further outward than the line of the side of the car; and gives instructions to have cars in this region so equipped as rapidly as possible.

Oriental Oil.—Order 226, canceling order 212 of the Southwestern regional director, quotes rules for the handling of shipments of Oriental oil and the containers therefor. These quoted rules amplify instructions issued in order 212. Shipments of nut and bean oils have been made in barrels and other wooden containers which were not of sufficient strength to prevent leakage; all shipments should comply with Section 2, Rule 8, of the Western and Official Classifications.

Removal of Placards Regarding Troop Movements.—The Central Western Regional Director in a letter to Central Western railroads, dated August 1, quotes a letter from Edward Chambers, director of the Division of Traffic, giving authority to take down the placards regarding the heavy movement of returning soldiers during June and July.

Controlling the Traffic at Its Source*

By Walter D. Hines

Director General of Railroads.

THERE IS ONE specific feature of railroad operation which I think is particularly important to this part of the country, and I want to say a few words about it, and that is what the Railroad Administration has done and is trying to do in order to control the movement of traffic, so as to avoid as far as possible the serious congestion of traffic, such as has occurred in recent years. For several years past, before the federal operation of railroads began, in my capacity as an officer of the Santa Fe, I had occasion to make frequent trips through the west, and I took a number of those trips in the fall of the year, and for two or three years I was very much impressed with the fact that the railroads in the west were tremendously hampered in carrying on their business, and in giving adequate service to their part of the country, due to the fact that the railroads in the east were so congested that they could not accept shipments which were ready for delivery in the west and the railroads in the west could not get back the cars to supply their customers, because these cars were tied up under load in the east. I saw in the fall of 1916 train loads of cars that stood on the side-tracks in Missouri, and even in Kansas, because the eastern railroads could not accept this traffic at Chicago. The eastern railroads could not accept these trains of traffic at Chicago, because the consignees in every part of the east were unable to accept the traffic which had been loaded and shipped to the east and was being held for them and there was a tremendous congestion and a very serious paralysis of railroad transportation.

Last year the government took advantage of the opportunity of having a unified control of railroads and undertook to meet that situation by controlling the loading and movement of the traffic, and I believe the results accomplished were very gratifying to the country as a whole, although, no doubt, in some individual cases the shipper may have felt that he was being deprived of the right to ship his traffic when he wished to do so. Under the old system it was really haphazard as to when the traffic would be started in railroad channels, and as to what would happen to it after it started. When the shipper had a load which he wanted shipped it was put into a car and the car was turned into the

stream of traffic regardless of the question whether or not that carload of traffic could be unloaded at the point of destination and the car released and sent back to the other road. It was very much the same situation that would exist if you had a stream and had it full of logs, on the point of getting jammed, and every man up the stream would put additional logs into the stream, at his own option, without regard to the general situation. Such a situation as a log jam would be the inevitable result and the movement of the logs would be slowed down until that log jam could be broken. We have undertaken to control that situation under the federal railroad administration by controlling the traffic at its source, by making a rule that the traffic shall not be loaded at the point of shipment until there is an assurance that it can be unloaded at destination. The result of that has kept the railroads free from this jamming of traffic and we have moved a great deal more traffic than could possibly be moved without that restriction. Therefore, the arrangement is eminently in the public interest, and I wanted to mention that fact, because I believe this summer and fall we are going to have an enormous movement of grain, and if that grain were to be loaded just at the option of the shipper—the individual shipper—without regard to the policy of taking care of it at destination, we would soon have an unparalleled condition of railroad congestion in this country which would slow down the movement of traffic to such an extent as would amount almost to a public disaster.

Our plan is to control that and to prevent the loading of traffic until we are sure it can be delivered at destination, and I am sure we will find this year, just as we did last year, that an observance of that policy is going to result in moving a vastly larger amount of traffic than otherwise could be moved and give to the individual shipper far better service than he could otherwise have, and while at times some individual shipper may feel it is an arbitrary disregard of his personal rights, we are going to be able to accommodate them much better and give far better service to the public, a greater quantity of traffic will be moved and the public interest greatly promoted.

"Railroad Democracy"

A WEEKLY MAGAZINE entitled "Railroad Democracy," published by the Plumb Plan League in the interest of its campaign to have the government buy the railroads and turn them over to the employees to operate, made its appearance on July 22. It is published at the headquarters of the league in Washington and contains eight pages devoted to arguments for the adoption of the plan. The leading article is by Warren S. Stone, grand chief of the Brotherhood of Locomotive Engineers and president of the Plumb Plan League, entitled "The Labor Campaign Is On." In it he says, "Labor is starting the greatest enterprise in its history and it has called upon every man of its rank and file to rally in support of its railroad program." He calls on every worker to act as a missionary in getting public support for the plan and says that the plan will get this support because its interests are identical with the publics, although "it may, and doubtless will, take time and effort to make the country realize the fact." Then follows a series of questions and answers regarding the Plumb plan, some brief editorial paragraphs asserting that the railroads want a guaranty, two headed editorials and an article on "Co-operation vs. Competition," by B. M. Jewell, acting president of the Railway Employees' Department of the American Federation of Labor. In a "filler" item it is asserted that Congressman Rose of the 19th district in Pennsylvania has received more than 2,000 letters from his constituents in one city asking his support for the Plumb plan.

*From an address before the Omaha Chamber of Commerce, Omaha, Neb., on June 10, 1919.

Hearing on Wage Demands of the Trainmen

W. G. Lee Admits "We Are Going the Wrong Way," but
Insists on His Members "Getting Their Share"

WASHINGTON, D. C.

HEARINGS BEFORE THE Board of Railroad Wages and Working Conditions on the demand of the Brotherhood of Railroad Trainmen for another general increase in wages, which was followed before the hearing closed by a demand from the Switchmen's Union and a statement from the Order of Railroad Conductors that if the trainmen's demands were granted the conductors should have a corresponding increase, were concluded on July 31. In this case the board is not authorized to recommend increases but merely to make a report to the director general summarizing the facts.

The demand of the trainmen was submitted on July 1 and was followed by a resolution adopted by the brotherhood committee threatening a strike if the demands were not met by October 1. It provides for a minimum wage of \$150 per month of 26 days for brakemen, flagmen and baggagemen, and of \$200 for conductors, and increases in mileage rates ranging up to 48 per cent. It is estimated that the new schedule, if granted, would amount to an increase of about \$100,000,000 a year for trainmen and about \$40,000,000 a year for conductors. In its letter to the board the committee representing the brotherhood said:

"The second triennial convention of the Brotherhood of Railroad Trainmen, in session May 14 to June 4, 1919, inclusive, unanimously decided that the wage rates outlined and ordered effective in Supplement No. 16 to General Order No. 27 were entirely insufficient to meet the just claims of the men, and the convention provided for the creation of a special committee to meet and prepare rates and certain uniform conditions commensurate with the service requirements incident to the employment of the men represented by our brotherhood. The convention, composed of more than nine hundred delegates, declared that not less than \$150 per month of 26 days should be conceded as a minimum living wage for any employee in the classes we represent.

"The special committee, composed of 16 general chairmen, 5 from the East, 5 from the West, 5 from the South, and the chairman of the Chicago Switching Association, with the grand lodge officers, met at Cleveland on June 23, and below will be found an outline of a proposed revision to Supplement No. 16 which, in the opinion of the special committee, should be conceded by the United States Railroad Administration to govern the employment of train and yardmen and to maintain proper standards of living.

"The Brotherhood of Railroad Trainmen disapproves the rates established for trainmen, yardmen and switchtenders by Supplement No. 16 to General Order No. 27, for the reason that under present economic conditions they are not commensurate for the service performed, nor sufficient to maintain proper standards of living, and that the rates and rules herein proposed are essentially necessary, if proper standards are to be maintained and thrifty and wholesome conditions are to exist among these classes and their families.

"The responsibilities, hazards, cost of uniforms, standard watches, living expenses (while away from home), physical examinations, age limit, rules, exposure to the climatic elements and the fact that their industrial life is shortened by some of these requirements, all tend to entitle these classes to more liberal wages and working conditions than have been covered in Supplement No. 16.

"We contend that in addition to being entitled to receive wages that properly compensate for services performed, to

enable men to maintain American standards of living, they are entitled to receive sufficient compensation to enable them to set aside sufficient surplus each year to protect them when, on account of old age, or requirements of the railroads, they are no longer able to follow their employment."

The proposed rates for passenger service range from 3.85 cents to 4.55 cents per mile, \$5.77 to \$6.88 per day and \$150 to \$179 per month for flagmen, brakemen, baggagemen and assistant conductors, and the minimum rates for conductors are 5.13 cents per mile, \$7.70 per day and \$200 per month. One hundred and fifty miles or less is to constitute a day's work. Time and one-half is asked for overtime, including Sundays and holidays.

The rates in passenger service are based on the assumption that brakemen and flagmen should receive not less than 75 per cent of the conductor's rate and the baggagemen not less than 80 per cent, and in freight service on the assumption that the brakemen and flagmen should receive not less than 80 per cent of the conductor's rate.

In through freight service the rates proposed are 5.88 cents a mile, or \$5.88 a day for flagmen and brakemen, and 7.35 cents or \$7.35 a day for conductors for "valley" service, and 6.47 cents per mile for flagmen and brakemen, and 8.08 cents for conductors, for "mountain" service, which is defined as service on lines where the gradient on any part of the trip is 1.8 per cent or over.

In local or way freight service the proposed valley rates are 6.28 cents for brakemen and flagmen, and 7.85 cents for conductors, and the mountain rates are 6.91 cents for brakemen and flagmen, and 8.64 cents for conductors. One hundred miles or less, eight hours or less, is to constitute a day's work in all road service except passenger service and where, under mileage schedules, a more favorable condition exists. Numerous other rules and rates are also contained in the demand.

In presenting the demands W. G. Lee, president of the Brotherhood of Railroad Trainmen, began in the usual style of threatening protest that wages are too low to meet the cost of living and demanding the increase as the only alternative to a strike. Before the hearing was concluded, however, he changed his tone somewhat and adopted the attitude taken by W. S. Stone of the Brotherhood of Locomotive Engineers in his statement to the President that continued increases in wages do not afford relief, and he declared that instead of shouting across the table at each other all interests would accomplish more if they would get together to reduce the cost of living. But, he said, as long as present methods continue, he believed in "everybody getting his share as nearly as he can until the final upheaval comes."

A large part of the hearing was devoted to a technical discussion of the proposed rules, which the railroad managers objected to as arbitrary and as designed to give larger increases to the higher paid men than to the lower paid men whose needs were made the basis of the brotherhood argument. W. G. Lee was given a preliminary hearing before the board on July 3 and presented his demands which he had previously discussed with W. T. Tyler, director of operation, and W. S. Carter, director of labor. He dwelt especially on the increased living expenses of the men when away from home, saying that the men in road service in many instances spend one-fourth of their salary in this way. Mr. Lee told the board that his committee had voted that in the event they were not given a prompt hearing and a satisfactory adjustment he was authorized to "use the protective features of the

brotherhood." As the trainmen and conductors have usually presented joint demands he had wired A. B. Garretson of the Order of Railway Conductors on June 24, asking whether the conductors contemplated asking for any increase over the wages allowed in the director general's recent Supplement No. 16 to General Order 27, and Mr. Garretson had replied that they had not decided. Thereupon the B. R. T., which includes some 24,000 conductors, had gone ahead with its own plans.

Chairman A. O. Wharton of the board read from a letter from Director General Hines pointing out that the requests now arising for the consideration of new wage rates fall into two classes, which necessitate different treatment.

Such cases, Mr. Hines said, as the various contentions that rates heretofore granted have not made a proper equalization between different classes of employees, are naturally proper for the board to consider and make recommendations, but contentions that existing wages are lower than they ought to be in view of the present cost of living "raise an exceedingly grave question for the government." "That question," he said, "is whether, when railroad operations are now being conducted at a very heavy deficit, the government ought to enter upon a course which will bring about large additional increases in wages, and will inevitably bring about also very heavy increases in rates, and without question set in motion a new and dangerous cycle of increases in the cost of living, and which undoubtedly will involve in addition the development of great additional hostility toward the whole scheme of government operation of the railroads. This problem is so grave and difficult that I am not in a position, in advance of opportunity to consider it further, to delegate to the Board of Railroad Wages and Working Conditions the authority to make recommendations as to additional increases in wages predicated upon the claim that conditions have newly arisen which were not in existence at the time the board made its recommendations heretofore acted upon."

The hearing was resumed on July 21 after notices had been sent to the Order of Railway Conductors and the Switchmen's Union. At this meeting Chairman Wharton read another letter from Mr. Hines, dated July 19, which definitely disposed of the theory that wage questions should be handled by a bi-partisan board. Mr. Hines authorized the hearing on the demands of the brotherhood, but made it clear that the board had distinct functions as to two separate branches of the application. As to questions of equalization, Mr. Hines said, the functions of the board as established by General Order No. 27 were broad enough to admit of its entertaining the application for the purpose of determining whether Supplement No. 16 should be corrected to make proper equalization, but General Order No. 27 does not confer upon the board any jurisdiction to consider the broad subject of the proposition that existing wages are lower than they ought to be in view of the present cost of living. Without further light on that question, he said, he was not in a position to delegate to the board a new jurisdiction to deal with this great problem for any special class of railroad employees. "Nevertheless, the responsibility rests upon me to consider the facts at all times on all matters affecting the railroad employees to the end that I may take such action as may be just and reasonable. To aid me in discharging this general responsibility I shall be glad to have you hear anything that the Brotherhood of Railroad Trainmen may wish to present on this second branch of the subject and to make a report to me carefully summarizing the facts brought out. Upon the basis of that report I will rest under the responsibility of taking just and reasonable action to protect the fair interests of the employees concerned."

Mr. Lee began his general argument by saying that the government had promised that pre-war living conditions for employees would be maintained. "So far as we are concerned," he declared, "this has not been done." In four

years, he said, the increases in wages for his members in passenger service had been as follows: Conductors \$45 a month or 33.3 per cent; baggagemen, \$42.30 or 51.2 per cent; brakemen, \$43.50 or 56.5 per cent; in through freight service, conductors, 1.4 cents per mile, 35 per cent; brakemen, 1.41 cents or 52.8 per cent; flagmen, 1.4 cents or 52.8 per cent; in local freight service, conductors, 1.42 cents or 31.5 per cent; brakemen, 1.48 cents or 49.3 per cent; flagmen, 1.48 cents or 49.3 per cent; yard service, day foremen, \$1.53 per day or 40.2 per cent; night foremen, \$1.33 a day or 33.2 per cent; night helpers, \$1.30 or 35.1 per cent. As against these increases, he said, the cost of living had increased 82 to 100 per cent.

"It is inconsistent for the Railroad Administration," Mr. Lee declared, "not to at least maintain the faith of the people in the expression of the government itself that the pre-war standards of living must be maintained and do what it properly should to maintain them by allowing wages at least that will permit men to do so. They are entitled to earn enough in six eight-hour days to permit them to live in comfort for seven 24-hour days, and this is the basis of our demand. We are asking for a wage that need not be pieced out with overtime."

After saying that the brotherhoods had surrendered their demand for time and one-half for overtime in 1916 in order to protect the public against a strike which he said would have been successful, Mr. Lee continued: "When the railroads were taken over by the government an agreement was entered into by the Administration, the railroads and the men that made a strike on the government operated roads impossible. They took their chances on being treated fairly by the Railroad Administration. They were so conspicuously good that their willingness to surrender their economic rights for the period of the war did not get even passing recognition from the public and not much more than that from the Railroad Administration. Now the war is over. We have kept faith with the government and the people and we have reaped the reward that comes to one who pulls his teeth and tries to remain a meat-eater."

"In the winning of the war the railroad transportation men must have had some part, and, having helped to win the war, we do not propose to pay the entire cost of it. We are going to have time and one-half for overtime; we are going to have decent living wages and we are going to get it in our own way, if we must, unless the Railroad Administration shows as much disposition to be fair to us as it has been to others."

"The railroads properly refer to their inadequate rates, but it is up to the Railroad Administration to determine what is needed to pay the going costs of railroad operation and to fix the rates to meet it. We have little patience with the Railroad Administration when it declares it will wait until later on when it can determine how much the rate increase ought to be, for the purpose of protecting the public against an increase in the cost of living."

"The packers, coal mine owners, shoe makers, clothing factories, builders, in fact, every business, put up no such weak plea of continued loss in earnings. They saw their chance to get the money and they took it, in most instances with the support of the government and without apology to the Railroad Administration or any of the rest of us. The spirit of the Railroad Administration in holding off the cost of living for everybody else at the expense of the railroad employees carries no appeal to us. The Railroad Administration is not paying its way. There is no argument on that. But it is up to the director general to quit begging the question. The deficit is due to insufficient revenue, from natural causes, or to administration failure. There is no business in this country that is asked by the public to operate at a loss except the railroads, which generally is their own fault. We don't agree with the director general's plan

of waiting to see what will turn up. It makes it too long between meals. It is up to the Railroad Administration to put the rates where they can pay wages and the going cost of operation."

When A. O. Wharton, chairman of the board, remarked that the trainmen were asking for rates of pay which would represent increases of from 112 to 121 per cent in four years as compared with an increase in living cost of about 85 per cent, Mr. Lee replied:

"We were predicting from everything surrounding us that the increase would extend into 1920, and if that is true the 112 per cent is not appalling. The Department of Labor says there was a 2 per cent increase in March, 1919, over February, 1919."

Mr. Wharton said the Department of Labor statistics also show a reduction in several of the months since the armistice was signed.

"How long will such wages remain equitable if the cost of living keeps going up?" asked J. J. Dermody, one of the labor representatives on the board.

"I can assure your board in advance that if the railroads stay under government control and the increased cost of living continues to go up you have not seen the last of me," replied Mr. Lee, "but we have predicted forward into 1920."

"I have no patience with the director general or the administration who say 'We are going to wait and see if something will not come along to take care of this terrible deficit, and continue to do business at a loss. We do not meet that in any store we patronize. There is something radically wrong in our policy that will permit the people controlling the commodities of life that a very large majority of people depend on to increase out of all proportion. Just so long as that continues you will add to the world's unrest.'"

Mr. Lee was followed by other officers of the organization, Val Fitzpatrick, L. L. McDowell, P. C. Bradley, J. L. Rowe, H. R. Sauer, James A. Farquharson, A. F. Whitney and James Murdock, who testified and were cross-examined regarding the detail schedule rules. One of the questions asked inspired Mr. Lee to take up the general proposition again when he declared that it would be better to go after the cost of living than to try to keep up with it by wage increases. Mr. Lee said:

"If these organizations and the different departments of the government would use the same effort and energy to assist in some manner to crush profiteering and to stop this constant increase in the cost of living, the cycle after cycle that is bound to come on, you would come nearer, I believe, to harmonizing the working people of this country than we are by shouting across the table at each other as we have been doing. All of us are to blame because we are exerting every effort to try to get more money for ourselves and better conditions and every day we must realize that the profiteers are taking double from the working men what is given to them. The trouble with the people on the (Capitol) Hill, with us, and with every corporation and with everybody is that we are exerting ourselves to get the dollar, while the working man is merely existing, and while the profiteer is piling up millions, and if a 25 per cent increase in freight and passenger rates is granted, it simply means 50 or 75 per cent increase on the commodities that the railroads are paid for hauling and that the consumer must buy.

"I will admit to you, gentlemen, that we are going the wrong way. I admit to you that it is time to call a halt, and I admit to you that until we get together to stop this there will be hell in this country, and it is nearer to-day than I ever knew it in my years of experience. You can talk about stopping this and satisfying the working people all you please; you can talk about high rates all you care to, but just let somebody drop a match today in this country of ours and it will be a sorry day for all of us. I am not blaming the administration a particle for declining as far as they

can to give additional increases. I think I know what it means. But unless my vision is most terribly obscured, then there is something coming to us pretty soon in this country that we had better take notice of. We are dealing with this situation wrongly in trying to settle these things as we are and not getting after the people who are to blame.

"Surely some method can be devised that will call a halt and stop this, and if we were back on a pre-war basis we would be far better off. The war is over, but peace is not before us, or I am a poor prophet. We are nearer war to-day, I believe, than when the kaiser threw down the gauntlet.

"Our lawmakers are to blame in my opinion for this because the masses of the people would be behind them if they would attempt to correct it. Surely, there is power to correct it, but instead of that they are playing politics, as some of these labor organizations, I am sorry to say, are playing politics, and it is the same all down the line, but unless we get together as honest people should and say 'a fair day's pay for a fair day's work,' then we are going to meet a sorry condition."

"Then, you believe that the true fundamental principle is to increase the purchasing power of the dollar?" said W. E. Morse, one of the representatives of the railroad managers on the board.

"Absolutely so," replied Mr. Lee.

"Do you believe in doing that at the expense of any one certain class of employees?" asked Chairman Wharton.

"No," replied Mr. Lee. "But as long as present methods continue I believe in everybody getting his share as nearly as he can until the final upheaval comes."

"How can the increased cost of living be stopped or present prices reduced?" asked Mr. Dermody.

"I am not authorized either by my organization or by the public to say how it can be stopped," Mr. Lee said. "We are paying millions of dollars to the men on the Hill who are supposed to have all the brains in the world, and they are not wasting any time in doing it." Another increase to the working man means that those selling commodities will not only immediately take it away from him, but more. I am not a red card man, but I am coming close to it if this thing keeps up.

"Surely, if we can make laws that we cannot have a glass of beer in this country, we ought to be able to make a law that a man cannot make millions over night off the working man."

Mr. Dermody asked, "In your opinion, is the increased cost of living based on wage increases, or will the increased cost of living continue whether wages are increased or not?"

"My experience," replied Mr. Lee, is that the increased cost of living is not based on wage increases, but is boosted on the slightest intimation of a wage increase."

"I think the record will show," said Chairman Wharton, "that since 1914 approximately 75 per cent of the increased cost of living was prior to the announcement of the 25 per cent increase in freight rates, and after the rate increase there was a slight jump further in the cost of living, but after business had adjusted itself to the new conditions the increased cost of living has been steadily mounting and in greater proportion than it did during the period that the adjustment of the freight rate increase was in effect."

Mr. Lee continued: "The government or the director general should, regardless of any criticism, place the railroads while under government control on a paying basis, and if the 25 per cent rate increase will not take care of it, and we know it will not, we know that on some of the railroads prior to the war 25 per cent would hardly have put them on a living basis, the director general should come out boldly and say that if the railroad business is going to be operated on a living basis, with a fair return to the investor and good service to the public, and with living wages to the employee, then the increase in freight and passenger rates

may perhaps be, not 25 per cent, but 50 or 75 per cent before we get through. If we did that we would not have equalled many of the principal industries of the country. We believe the increased cost of living should stop. If it does not we will hardly get this proposed increase applied before we are back here again. Unless these employees are given a wage that will permit them to live under pre-war conditions there is going to be something worse happen on these railroads, so far as the public is concerned, than an increase in freight and passenger rates.

"This is the first time in my 25 years' connection as an officer of this brotherhood that I have ever gone before any tribunal and raised the question of living cost in connection with a request for an increase, because I thought that, like a boomerang, it would come back and hit us some time. But now it is the all-absorbing question.

"We are going to get a pre-war living condition in our own way if we must, but we would rather get it in a business-like and gentlemanly way, and we would rather that the director general should see the necessity for it and tell the public so."

F. F. Gaines, one of the railroad members of the board, said: "Taking all of the classes Mr. Lee represents, this request averages $16\frac{1}{2}$ cents per hour. Sixteen and one-half cents for all railroad employees—and, we might as well acknowledge the fact that if one class is given an increase it has got to go around the circle—and for each cent an hour increase it is \$50,000,000 a year, and a $16\frac{1}{2}$ -cent an hour increase would bring it up to \$825,000,000 a year increase. Their present deficit, it has been figured, would require a 10 per cent increase in rates to cover. The other \$825,000,000 would require 33 per cent additional, or right now, if this were granted, it would mean at least 43 per cent increase in rates to cover the deficit, and that does not take into consideration any punitive overtime for Sundays and holidays, and that does not cover the increased cost of coal, rails or anything else, only wages."

Mr. Morse asked what would be the attitude of the employees when living prices descend.

"That would be a question I would submit to the membership and answer by their vote," replied Mr. Lee. "Knowing human nature as I do, I have an idea what they would tell me they wanted."

A. F. Whitney, vice-president of the Brotherhood of Railroad Trainmen, said that it would be impossible to estimate the cost of the wage demand, because he claimed the effect of the punitive overtime rate would be to reduce overtime and Sunday and holiday work. "But," he said, "I imagine you would see committees of the Brotherhood of Railroad Trainmen asking for a reduction of pay about as soon as you would see the General Managers' Association going to the Interstate Commerce Commission for a reduction in rates."

Mr. Whitney asserted that the percentage of overtime had been materially reduced since the Adamson law went into effect, but it appeared later that he was speaking principally of yard service. Mr. Morse said that before the Adamson law the percentage of overtime to the gross payroll in road service was 10 to 12 per cent, whereas he had information that now it is 20 to 30 per cent.

"Since the roads were taken over by the government," Mr. Whitney said, "there has not been a very close check on overtime. There seems to have been a lack of supervision." Mr. Lee added that if there had been any laxity of discipline it was under the same officials as before.

"But in order to discipline the average train service employee you would have to have more evidence than is usually necessary to convict a man for life sentence to the penitentiary in civil law before the courts," retorted Mr. Morse.

"Generally speaking, I think what we would term good employees, whether it be federal manager or brakeman, have

tried to give good service," said Mr. Lee, "but perhaps they may have been discouraged by too many higher-ups. I imagine that under government control an operating officer or federal manager today has his troubles as compared with private control. I imagine he is bound around with red tape more than he ever dreamed of being under private control."

L. E. Sheppard, president of the Order of Railway Conductors, entered a protest against the Brotherhood of Railroad Trainmen or any other organization except the Order of Railway Conductors, appearing before the board in an effort to legislate wages for conductors, saying his organization has an agreement with 95 per cent of the railroads. The grand lodge of the Order of Railway Conductors at its recent session, he said, refrained from taking any action on a wage increase on the advice of the officers. If additional rates and rules are given which appear to the conductors as reasonable and fair, he said, it is possible there will be no action on the part of the organization. He protested, however, against the ratio between the pay of the brakemen and that of the conductors proposed by the Brotherhood of Railroad Trainmen as being too high. The B. R. T. proposed that the brakemen's scale should be 75 per cent of that of the conductors, and proposed rates for the conductors, of whom about 24,000 are included in the membership of the B. R. T., based on that ratio. Mr. Sheppard said that the ratio should be $66\frac{2}{3}$ per cent and that whatever rate was awarded to brakemen, the conductors should receive a corresponding differential, and he submitted a scale of rates for conductors which he said would leave the ratio where it was fixed in the director general's latest wage order. Mr. Sheppard said that the conductors had received an increase of approximately 50 per cent, counting the reduction from a ten-hour to an eight-hour day as 20 per cent, and that as the increased cost of living was 85 per cent they still had 35 per cent coming to them. He asked to be excused from commenting on the proposed rules of the Brotherhood of Railroad Trainmen, but said that in order to get the extra 35 per cent the conductors should have \$9 a day in passenger service, \$8.10 in through freight service and \$8.88 in local freight service. He trusted that the board would give the director general such recommendations or information that would lead him to see his way clear to do something for these men.

"I hope he will see his way clear," Mr. Sheppard said, "to cut the Gordian knot and throw the responsibility back on the government where it belongs. Let these men on the Hill, who are batting at toy balloons and fanning the air and who are running around like a cat chasing its tail and doing nothing else, let them get busy. If the government can fix wages, hours and the price of steel rails, it can fix the price of things which men must have to maintain life. God knows the people of this country are against government control. Almost everybody is against it. They tell us the railroads are going back in January, but mark this prediction: While I am not a prophet or a son of a prophet, they will not go back January 1. The party in power dares not put them back under these chaotic conditions. It may be the gentleman in the White House will give them back, but from my observation of and experience with that gentleman, he is too wise to do it.

"What have they done on the Hill? They have recessed for the summer with the whole world aflame. Like Nero, they are fiddling while Rome burns. There are too many fiddlers up on the Hill instead of statesmen."

Mr. Sheppard was not so vociferous as Mr. Lee for an advance in freight rates. "My position," he said, "is that the old idea that every time an increase in wages is given the freight rates should be put up is merely subterfuge. Freight rates ought to be based on equity and justice without regard to labor, but I firmly believe freight rates ought to go up considerably more."

Mr. Sheppard also suggested reducing the tonnage of freight trains as one way of reducing overtime. He said if the railroads were not so largely regulated by the necessity of showing a good tonnage many of the things the brotherhoods asked could be adjusted.

"It has been repeatedly stated in this hearing," said C. E. Lindsay, a member of the board, "that the only thing the men had to dispose of was their time, and they have evinced very little interest in accomplishing the results that are to be obtained by the railroads. What I think ought to be brought about would be some means by which they would become interested, from selfish and personal standpoints in accomplishing the results that must be obtained by the railroads, and that is in the moving of ton miles and passenger miles."

"Adopt the Plumb plan, and we will have it," replied Mr. Sheppard.

S. E. Heberling, president of the Switchmen's Union, presented a demand for the following rates east of the Rocky Mountains:

Night foremen, \$8 a day; night helpers, \$7.50; day foremen, \$7.50; day helpers, \$7. He also asked for a higher scale for the mountain district and time and one-half for overtime, Sundays and holidays.

Elisha Lee, federal manager of the Pennsylvania, as chairman of a special committee representing the regional directors, presented a statement in opposition to the demands. He said the B. R. T. proposition represents a revision of Supplement 16 only in part, as it contains requests not heretofore submitted. He also said the railroads have no knowledge of changed conditions to justify a closer relation between the wages of the brakemen, flagmen and baggagemen and those of the conductors. He took up in detail the various provisions of the demand. Regarding overtime, he said: "The principle of overtime for road service employees on the basis of time and one-half is wrong and inequitable, and cannot be fairly applied where the regulation of business and the traffic requirements of business are beyond the control of the employer. It should be remembered that road service provides a dual basis of pay, miles and hours, and cannot be considered in the same category or comparable with other classes of service or labor. In road service it is quite evident that in many cases neither the management nor the men can prevent overtime." Regarding the demand for a higher rate for Sundays and holidays, he quoted from a statement by the director general in a wage order: "In the nature of things it is unjustifiable to impose such punishment in respect of work which cannot be avoided."

A rule for overtime for Sundays and holidays, Mr. Lee said, could have no other effect than simply to increase the compensation of the men, and he pointed out that while they demand a guarantee of 26 days a month, they could not work 26 days a month without working on Sunday or a holiday some of the time. He also pointed out that many of them now have 10 to 12 layover days a month, and he gave several examples to show that such a rule would merely result in large increases in pay to some of the men now receiving high wages. For example, on the Erie between Jersey City and Salamanca, a run of 413 miles, he said the brakemen work two Sundays and 18 week days a month, and would be increased under the proposed rule from \$219.72 to \$333.91. On a Baltimore & Ohio train between Baltimore and Frederick, Md., Mr. Lee said, the crew leaves Baltimore at 5.05 P. M., and gets back at 8.55 A. M. The elapsed time is 15 hours and 50 minutes, but the actual time on duty is 8 hours and 25 minutes. The conductor now earns \$312.45 a month, and under the proposed rule would get \$500 a month.

Mr. Lee also pointed out that mountain rates were established to meet frontier conditions in the west, and in recog-

nition of the difficult braking conditions in the old days of hand brakes. Now the trains are equipped with power brakes, and living conditions in the west are as good as in other places, so there is no reason for the higher rates and certainly not for their extension to other parts of the country, but the proposed rule would require mountain rates to be paid on every trip which contained any grade, no matter how short, over 1.8 per cent. This would apply the higher rates, he said, to a very large percentage of the divisions on nearly all roads in the United States.

As to the general question of an increase in wages, Mr. Lee said that Supplement 16 represented an equalization with other classes of employees, and if any one class is given more it will undoubtedly be necessary to bring the other classes of employees up in proportion. "We understand," he said, "that the foundation of this request is predicated on the statement of one member of the War Labor Board (in which we understand the balance of the War Labor Board does not concur) that the minimum wage should be \$150 per month. This statement has been public information for many months, and so far as we have heard there has been nothing presented either to substantiate that statement or to indicate it is other than the opinion of one man. Hundreds of thousands of railroad employees have wages considerably under \$150, many of whom have more onerous working conditions than many of the men here represented, whose units per day are not an index to their actual earnings per month. The mileage factor fixes the pay of more than 50 per cent and results in earning approximating if not in excess of \$150. You are already informed as to the financial situation of the Railroad Administration, so it does not seem necessary to comment thereon. It is a very serious question in my mind whether during this period of reconstruction we can all go back to pre-war conditions."

At the conclusion of the hearing Mr. Wharton put into the record a statement of the Bureau of Labor Statistics estimating the increased cost of living in April, 1919, as compared with the average for 1913, which showed an increase in wholesale prices of 111 per cent, on which basis the present comparative purchasing power of the dollar would be 47.4 cents.



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Scenes from Foreign Ports—Loading Iron Ore at Cartegena, Spain

Chicago Suburban Lines Demonstrate Efficiency

Strike of Street and Elevated Railway Employees Results in Taxing Terminal Organization and Equipment

THE STRIKE OF CHICAGO'S street and elevated railway employees, which began on Tuesday morning, July 29, and lasted until Saturday, August 2, presented an opportunity to the steam railroads entering Chicago and to operating officers in the Chicago district to show the efficiency with which they could handle an enormous overload of traffic; and the way in which the business was handled cannot be praised too highly.

Early Tuesday morning the 15,000 employees of the street railway and elevated lines, after negotiations with their employers, were stampeded by a radical element into initiating a strike. Although negotiations had been under way for some time the action on the part of the men was wholly unexpected by the public, and threw upon the steam lines entering Chicago's business district the task of providing transportation for the hundreds of thousands of workers who ordinarily depend upon the street railway and elevated lines for transportation daily to and from their work.

When the controversy over the question of wages first arose between the street and elevated railway line's em-

ployees the following morning. The next morning not a street car or an elevated train was running in Chicago.

Officials of the various steam roads upon which the burden would be thrown were immediately notified and early in the morning the final arrangements were made for the handling of the increased traffic. The actual results accomplished by each of these roads may best be told in the tentative records compiled at the end of the four-day period.

The Chicago & North Western during this four-day period operated 1,555 trains carrying approximately 704,480 passengers as compared with a daily average under ordinary circumstances of 100 trains carrying 40,000 people, or 400 trains carrying 160,000 people during an average four-day period. In other words, this road operated 300 extra trains per day, carrying approximately 140,000 passengers in addition to its regular traffic. Stated another way, this road operated 1,200 extra trains in four days, carrying approximately 600,000 extra passengers.

The mere increase in the number of trains operated and in the number of passengers carried does not adequately tell



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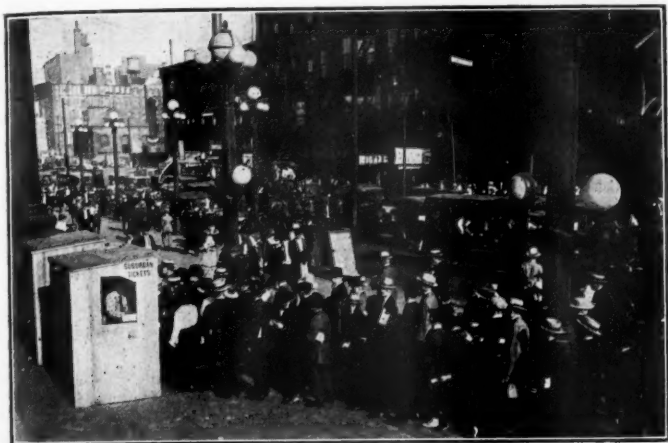
Crowds Waiting for Trains at North Western Terminal

ployees and officers of the line, the steam railroads operating suburban service into Chicago immediately began making preparations for any eventuality which might arise. Preparations were made particularly by the Chicago & North Western and the Illinois Central, the two roads upon which the burden would be heaviest because of the fact that they traverse heavily populated residential districts and handle a large suburban business at all times. When it is considered that until Monday night the negotiations between the two factions were to all appearances progressing satisfactorily and a strike did not seem imminent, the preparedness demonstrated by the railways is all the more commendable. The crisis came on Monday night when a meeting of the car men was stampeded by a radical element and the car men were forced into the declaration of a strike begin-

ing the following morning. With this increase in trains and in passengers carried there were no accidents reported on the Chicago & North Western lines in the district served by the suburban trains. Extra ticket booths to the number of 15 were erected at the Chicago & North Western terminal in order to accommodate the crowd, and all of the passengers were required to purchase tickets before entering trains. Several tracks were assigned to each route from the downtown terminal and large signs were placed over the train gates entering these tracks. The crowds after purchasing their tickets were assembled on the station concourse in front of the gates for the different routes and were allowed to enter the platform as soon as the trains were placed in position.

In addition, extra ticket booths were established at practically all of the suburban stations where heavy traffic was

likely to originate, and practically the only difficulty encountered in handling the crowds on the North Western was in the handling of these additional trains. This difficulty was overcome by eliminating the regular suburban schedules and substituting therefor a shuttle service. In consequence, the large number of suburban trains ran between, into and out of the terminals as the traffic permitted and at no time was it necessary to hold trains after they were loaded to capacity. On July 30, the second day of the strike, the North Western operated 402 trains carrying 175,993 passengers.

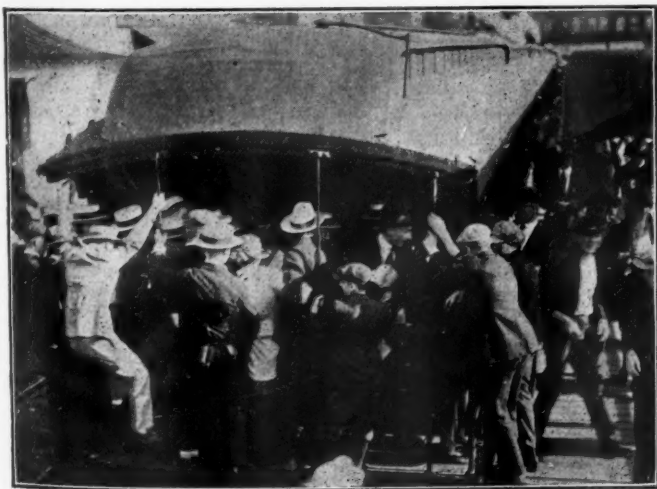


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Special Ticket Booths Outside the Chicago & North Western Station

On the third day of the strike, July 31, the North Western operated 388 trains carrying 176,130 passengers. On August 1, the fourth and last day, 393 trains were operated carrying 184,830 passengers.

Much of the credit for the expeditious and satisfactory handling of the crowds on the North Western is due to S. G. Strickland, federal manager, who personally assumed im-



From Chicago Daily News.

Hanging on the Rear End of an Illinois Central Train

mediate direction of the suburban service during the four-day period.

The Illinois Central, which with the Chicago & North Western normally carries the bulk of the suburban traffic, carried during this four-day period approximately 800,000 passengers as compared with the normal travel during that period of approximately 200,000. As in the case of the North Western, plans were perfected by the Illinois Central

for handling the increased travel on short notice when the strike of the car men became imminent. In fact, Illinois Central officials were watching the situation so closely that trains began operating within 15 min. of the time the strike was called, and by 5 a. m. on the first morning of the strike a 10-min. service was being conducted into Randolph street, the suburban terminal of the road. During the peak load in the morning and evening rush hours trains were run into and out of the Randolph street station every minute. At the Van Buren and Randolph street stations inbound passengers were discharged during the morning rush hours at the rate of approximately 500 each minute and the same number of outgoing passengers were handled at these stations during the evening rush hours. Considering the increased traffic handled on such short notice, the service was particularly free of congestion and accorded a free movement of passengers at all times, there being no delays, no accidents and no personal injuries recorded. The extra employees which were delegated to handle this increased traffic were given dining and sleeping car facilities throughout the entire period of



From Chicago Daily News

Reserved Seats on the Tender of an Illinois Central Engine

service, and because of this fact no extra employees were used to handle the increased traffic.

The Chicago, Rock Island and Pacific under ordinary conditions has a heavy suburban traffic, running 75 trains a day and carrying from 17,000 to 18,000 passengers. During this four-day period there were put in service approximately ten extra trains a day, which, with the regular trains, handled between 30,000 and 35,000 passengers, or an increase of 12,000 to 13,000 over the regular traffic. In other words, the Rock Island during the strike period carried 120,000 to 140,000 passengers on 340 trains as compared with an average traffic of 68,000 to 72,000 passengers carried on 300 trains. Additional ticket booths were installed at the La Salle street station, and preparations were made to handle the traffic expeditiously.

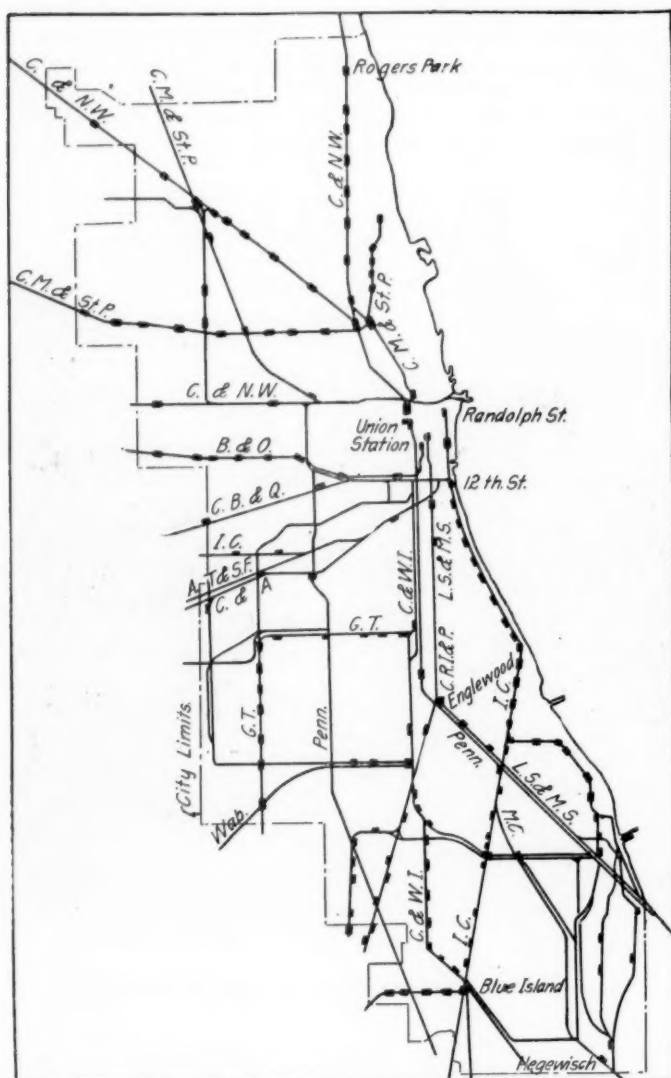
The Chicago, Milwaukee & St. Paul under ordinary conditions does a limited suburban business, although its lines traverse heavily populated districts which are ordinarily

served by the street and elevated railways. Its regular schedule consists of six suburban trains which carry on an average 5,000 passengers per day. During the four days of the strike the number of trains daily was increased by 12, making a total of 18. These trains handled approximately 30,000 additional passengers during each day of the four days, making a record for the four-day period of 72 trains handling 140,000 passengers. Service on the Evanston line of this road, which has been abandoned for several years, was resumed, and during the morning and evening rush hours service was rendered as far north as Buena Park, a distance of approximately 6 miles. In addition service was resumed on this company's line to Dunning, serving portions

normal number of 70 by the addition of 5 trains, beside an increase in the number of cars per train, and the number of passengers handled was increased from the average daily number of 14,000 by the addition of approximately 7,000 a day.

One of the difficulties encountered in the operation of this additional suburban service was in the collecting of tickets and fares. This difficulty was overcome by requiring passengers to buy trip or commutation tickets before entering the trains and taking up these tickets as the passengers entered the train platform. At the suburban stations on many of the roads the station platforms were fenced off and the tickets purchased were collected or punched as the passengers passed through to the station platform.

The experience these railroads obtained during a similar situation in June, 1915, enabled them to avoid many of the difficulties encountered at that time. The congestion was further relieved by the fact that a greater number of street vehicles were pressed into service than in 1915 and because the public did not commence to use the steam roads to the fullest extent until the second day of the strike.



Distribution of Suburban Stations on Steam Roads in Chicago

of the city normally served only by the street and elevated lines.

The Chicago & Western Indiana, which normally runs 7 suburban trains a day which carry a total of approximately 3,000 passengers, increased its trains by 30 each day during the strike, making a total of 37 trains per day which carried daily a total of approximately 23,000 passengers per day.

Conditions on the Chicago, Burlington & Quincy approximately duplicate conditions on the other lines handling a suburban traffic from Chicago, but its lines do not traverse a section of the city that affords much suburban business. The number of trains on this line were increased from the

Hydrogen Gas for Cutting and Welding

WHILE ACETYLENE in combination with oxygen is widely used for welding and cutting, there are certain disadvantages in the process due to the explosive character of the acetylene. In order to eliminate the disadvantages incident to the use of acetylene, the Carbo-Hydrogen Company of America, Pittsburgh, Pa., has developed a gas known as carbo-hydrogen with the view to furnishing an efficient and safe medium for use in cutting and certain types of welding.

Carbo-hydrogen is a product of the destructive distillation of suitable hydro-carbons and is a general analysis of 85 per cent hydrogen, the balance being light hydro-carbons. It is a fixed gas, permanent under all weather conditions, and does not solidify or leave any residue in the tank. Being a combustible gas and not an explosive, it is easy to use and safer than acetylene. No air or free oxygen is mixed with the gas in the process of manufacture.

Gases having a high B. t. u. value are necessarily slow in combustion and require a longer time to deliver a given amount of heat and a larger expenditure of oxygen than gases having a higher rate of combustion. For this reason, a smaller portion of oxygen is needed for a given amount of work where carbo-hydrogen is used. The gas maintains a very high rate of combustion and ignition consequently generates an intense heat.

In cutting ferrous metals gases having a high carbon content change the character of the metal at the cut hardening it so that machining or canting is exceedingly difficult. It is claimed that metal cut by the carbo-hydrogen process on the other hand retains soft surfaces that can readily be worked, while the absence of slag increases the speed of cutting and produces a smoother surface.

The use of carbo-hydrogen for heavy welding on steel parts is not advocated by the manufacturers, although the process is said to be superior to the oxy-acetylene flame for welding softer metals.

Among the advantages of carbo-hydrogen may be mentioned the absence of dangerous and poisonous gases in the products of combustion which often prove injurious to operators being composed largely of pure hydrogen, carbo-hydrogen burned almost entirely to water, while the combustion of acetylene and oxygen produces at least 50 per cent carbon monoxide. Carbo-hydrogen compressed to 1,800 lb. per sq. in. is supplied in drawn steel cylinders. The working pressure varies from 5 to 19 lbs. per sq. in.

Plumb Plan Given Hearing Before House Committee

Congressmen Not in Receptive Mood and Resent Threatening Attitude. Stone, Morrison and Plumb Testify

WASHINGTON, D. C.

THE PLUMB PLAN for having the government take the railroads from the "bourgeois," paying them the number of dollars representing their original investment, but in the depreciated dollars of today, and turning their operation over to a corporation not for the benefit of the "proletariat," but only of that section of the proletariat employed on the railroads, was given a hearing before the House committee on interstate commerce on Wednesday and Thursday, during which it encountered some rude jolts at the hands of the committee members.

Warren S. Stone, grand chief of the Brotherhood of Locomotive Engineers, and president of the Plumb Plan League, and Frank E. Morrison, secretary of the American Federation of Labor, opened the presentation, and they were to be followed by Glenn E. Plumb, the author of the plan, and A. B. Garretson, until recently president of the Order of Railway Conductors. Mr. Stone and Mr. Morrison made very brief statements, but they did not leave the witness stand until they had been questioned at length by nearly every member of the committee, most of whom made it very plain that they were neither in sympathy with the ideas represented by the plan nor with the threatening manner in which it has been presented to the public.

Both Mr. Morrison and Mr. Stone said that the cost of living constituted the real problem; that increased wages would afford only temporary relief, and that the Plumb plan would afford no immediate relief along that line, but they had no concrete suggestions to offer for a reduction of the cost of living, and Mr. Morrison insisted that an increase in wages would be necessary in any event while the cost of living was being reduced, although he admitted its effect would probably be to increase the cost of living. Mr. Stone denied that the labor organizations propose to strike for the purpose of securing the adoption of the Plumb plan, but said there might be some strikes to "secure relief from the high cost of living."

Mr. Plumb Speaks on Living Costs

Before discussing the principles underlying the Sims bill Mr. Plumb spoke on behalf of labor as holders of Liberty bonds. "Twenty-two million citizens out of patriotism contributed," he said, "20 billion dollars to aid in the prosecution of the war. On this contribution, they are assured a return of only $3\frac{1}{2}$ to $4\frac{1}{2}$ per cent. If they now see the Government guaranteeing 6 per cent returns on \$20,000,000,000 of railroad securities, of which at least half is fictitious, if the Interstate Commerce Commission's figures on five small roads are to be taken as characteristic of the entire industry, representing no service to the public, thereby depreciating their securities, for which they paid par value, by 50 per cent, can you expect them to maintain that patriotic belief in their country?"

"Would you not believe that such action merely transferred from the market value of war bonds to the market value of railroad securities, six or seven billion dollars?"

"The representatives of railway securities, the railway security holders, and the United States Chamber of Commerce appearing before you have asserted that they speak for half of the citizens of the United States as being interested in the value in maintaining the credit of railway securities. By what basis they reach this conclusion I cannot tell. But if 50 million people are indirectly affected by the market value of 20 billion of railway securities held by 200,000

individuals, how many people are affected by the market value of 20 billions of Government bonds held by 22 million individual subscribers? And to what extent are the holders of life insurance policies and depositors in savings banks interested in seeing that the assets of those institutions are not damaged by shrinkage in the market of Government bonds which they hold?"

"If the value of a labor investment be calculated by the return which it receives, in the same manner in which a capital investment is determined, then that labor investment measured financially approximates a value of 50 billion dollars. In addition to that at least three million citizens appear here as capitalists owning a large proportion of the national debt and seek to have their interests as such owners likewise considered and justly protected.

"This vast army of producers are not divided. They present no conflicting plans, no diverse theories for the solution of this problem, but appear before you a united force profoundly convinced of the economic soundness of the principles upon which their plan is built, imbued with the crusaders' spirit to support the principles upon which their faith is founded.

"The progress of recent events has brought us face to face with a crisis of tremendous importance. The constantly rising cost of commodities to the consumer has far outstripped the purchasing power of the consumer's wage. This difference between earning power and spending power of the great mass of the workers has compelled a corresponding lowering of the standard of existence. This is an onfluence entirely hostile to the interests of humanity, and to be resisted by all the powers of mankind. Human nature cannot do otherwise than oppose the universal lowering of the standard of living. To avoid the deprivations which loss of purchasing power necessarily inflicts, the first natural reaction is the demand for increased purchasing power through demanded raises in wages, yet, this demand is acknowledged to be futile, because such increase in cost of production is immediately more than reflected in the increased cost of commodities.

"In answer to this first reaction, demand for increased wages, we now find a hundred thousand railway employees refusing longer to render their services for these constantly diminishing returns. This manifestation of revolt is but symptomatic of the entire industrial situation. It is not unrest that confronts us, it is revolt because of industrial conditions no longer to be borne.

"We already number in the supporters of labor's plan approximately six million adult producers—about one-sixth of the productive man-power of the United States, perhaps the same proportion of the political power of the nation, and a financial power which few comprehend. Those employed on the railways alone represented in this movement, receive as their annual compensation for the investment of their life and labor upwards of $2\frac{1}{2}$ billion dollars a year,—two and a half times the amount of compensation paid for the use of the money invested in railways.

"It is claimed by those who represent the financial interests before this committee that they have investments of approximately 20 billion dollars in this industry. Unless they receive a return of a billion dollars a year, how shall this investment of money be compared with that investment of life and labor that receives a return of $2\frac{1}{2}$ billion dollars a year? By what standard can they be compared which gives

to the investment of life a value less than that allotted to the investment of dollars? By what reason can the interest of things exceed in value the interest of human beings? He who speaks of the interests of property as consisting of rights which the property possesses disassociated from the human right of ownership, reasons falsely.

"All citizens are consumers. Most citizens are producers. Those who consume and do not produce are either beggars or capitalists. Many who produce are also capitalists. I have already shown that 1,700,000 of the wage-earners on the railroads, producers, are capitalists in that they hold Government securities. Many of those who hold investments in the railroads, also, serve the industry in some capacity. So that these three interests are commingled in the great body of citizens. Likewise, all producers are consumers; and again all consumers are producers, except those who live by charity or those who live on interest alone. All of organized labor are consumers, and it is the failure of producers in industry to recognize their interest as consumers that has made the efforts of organized labor ineffectual in securing for its membership a greater share of the profits of the industries in which they are employed.

"The owners of the capital alone have benefited. Wages have been increased, but all commodities which the wage-earners must purchase have been more than correspondingly increased in price by the profit demanded by the owner of capital upon the increased cost of production. Under such a system earning power can never overtake spending necessity. But the necessity of purchase always outstrips the power of buying exactly by the profit demanded on the increased purchasing power, and to the extent of the profit compounded by each intermediate handling and transportation of the commodity. This constantly growing difference between necessity for buying and ability to pay must be compensated by a lowering of the level of existence. In no other way can the sheet be balanced, and mankind not only here but the world over refuses to accept that balance sheet.

"Organized labor now realizes that further advances in wages at the expense of a cost of living exceeding that of values are wholly futile. Equally, organized labor realizes that to correct this vicious system the interests of both producers and consumers must be protected; that the great increase in the productive power of human effort should be reflected equally in increased earning power of those who produce and the decreased cost of the commodity, so reduced.

"In order to affect the price of all commodities by advances in wages to those who produce, then, it would be necessary to complete the entire cycle of industrial production. An advance to the shoemakers is reflected only in the advanced price of shoes. It does not affect any other commodity.

"But with transportation the situation is quite otherwise. The cost in transportation is reflected in the price of all commodities, whether transported or not. The consumer pays the freight on everything that he consumes, although it may be produced next door, and may never have passed over any line of transportation. Heretofore railroad rates have not been advanced universally. A commodity rate is advanced here, a classification rate advanced there, and only those commodities affected by such local advances reflect the increased cost in their price. But with the coming of the war a 15 per cent advance was allowed by the Interstate Commerce Commission, covering all rates and all commodities, and reflected the next day in the purchase price of everything by which we live. Later the director general again advanced these rates 25 per cent. This advance was again immediately reflected in the price of commodities, and the cost of living. The wages earned by those who produce constitutes the great bulk of the purchasing fund of this nation. When the price of all commodities is advanced due to an increased cost of trans-

portation and the wage fund is not correspondingly increased, the difference is exactly reflected by a restriction in the amount of commodities consumed. This soon reacts on the producing agencies. They provide a restricted output to correspond with the restricted demand. This, again, restricts the wage or purchasing fund, and the cycle of restriction endlessly repeats itself, until we find production stifled, industry in stagnation, unemployment and inevitable political and social revolution.

"Reverse this vicious system. Reduce rates. The costs of all commodities are then reduced accordingly. The purchasing power of the wage fund is then correspondingly expanded. A greater volume of commodities is consumed. The demand on industry is increased. There follows a wider field of employment, which, in turn, increases the wage or purchasing fund of the community. This must inevitably follow, unless the savings of the cost of transportation, instead of being reflected in the price of commodities, are appropriated to swell the volume of profits of those who control capital. Insure the savings effected by a reduction in rates to the consumer, and you will have turned the tide that now threatens to overwhelm us."

Testimony of Warren S. Stone

Declaring that "American democracy is controlled by an autocracy in industry, and that America must become the home of industrial freedom," Warren S. Stone, grand chief of the Brotherhood of Locomotive Engineers and president of the Plum Plan League, argued that there could be no solution of the industrial problem and no lowering of the cost of living as long as consumers had to pay extortionate profits on their own earnings in purchasing the necessities of life. Labor's belief in the Sims bill, he said, was profound. "In this plan," he concluded, "we raise the banner of democracy in control of industry, we advance to a new crusade with the faith of the Pilgrims, with the convictions of the framers of the Constitution and with the hope of America for economic independence." His statement was in part as follows:

"At the request of these organizations the Sims bill is now before you. I speak as the voice of these two million men, delegated by them to announce to this committee and to the people of this country that they are supporting this measure with all the strength and all the unity of purpose that can move so large a body of citizens. Joined with us is the American Federation of Labor, adding three million and a half men to that body of railway employees who instituted this movement.

"In the industrial development of this country great organizations of capital first appeared as employers. Individual workers, following the example set by capital, organized as employees. Their purpose was to secure better working conditions and a larger measure of return for their labors. The full force of capitalistic organizations has been set against labor to hold and to keep all the profits of industry. The strength of the labor unions has been exerted to wrest from capital some share of the profits for the wage-earners.

"This has been a perpetual struggle by the workers to maintain a tolerable standard of existence; on the part of capital to amass greater profits. At times both sides could ignore the needs of the public. But now the very growth of the labor organizations has brought into their ranks a great mass of the consumers. The large number of the wage-earners now constitute a large percentage of the people.

"For whatever the worker receives in wages he must spend for the necessities of life. In addition, he is always compelled to pay to the employer an excessive profit on his own wages. The cost of his living is determined by the sum he earns plus the profit he is charged on his own labor. And as a group, labor is forever prevented from bettering its lot because of the profits exacted by the employer. The hope

of a finer life is never realized. So long as consumers are forced to pay extortionate profits on their own earnings to a third interest there can be no solution of the industrial problem.

"We find that this third interest absolutely controls and dominates the management of industry. It fixes wages and controls working conditions. It fixes the prices of commodities without regard to the needs of society, or the necessities of producers and consumers. We have a democratic form of government but an autocratic control of industry.

"We exist under government, but by industry we live. Under such a system the majority of a democracy can through their government enjoy only such rights and privileges as an autocracy in industry permits them to receive. This country was peopled by a race who sought within its boundaries religious freedom. It was established by their descendants through revolution as a land of political freedom. We now demand that it become the home of industrial freedom. This can only be accomplished by extending to industry the same right of individual freedom recognized by the founders of our government in establishing this democracy. The need of mankind for the products of industry must be accepted as the basic interest in all industry. The right of the worker who supplies that need demands like acceptance. This can only be achieved by permitting producers and consumers to share in control of the management of their means of existence. The machinery for attaining this result we believe is embodied in the plan outlined in the Sims bill."

Mr. Stone Questioned

Members of the committee apparently had prepared themselves for the labor leaders, and Mr. Stone promptly bumped into a hornet's nest of hostile questions. Chairman Esch began by reading from the statement signed by the brotherhood leaders that labor is in no mood to brook the return of the railroads, and asked what was the purpose and intention of that declaration.

"We are bitterly opposed to the railroads being returned to the old plan of private ownership and the struggle of labor," replied Mr. Stone.

"This committee has heard numerous plans for dealing with the railroads, and we have given you the same chance as everybody else to present your plan," said Mr. Esch, "but should the committee not endorse the Plumb plan what will be the attitude of your organization?"

"We will try to create enough public sentiment so that the majority of the House and Senate would endorse it; through every means at our command; through the press; through our members, and in every legitimate way."

"Would you seek to develop your plan through a strike?"

"No. I can speak only for the B. of L. E. We have made no threat of a strike. We have not even asked for an increase. We prefer a reduction in the cost of living."

"I don't think any of these organizations are going to strike simply to get the Plumb plan," said Mr. Stone, "but I think some of them may strike if they don't get some relief, and they do object to the plan proposed by the President. I don't believe they will wait that long because they cannot live under present conditions."

"If the President does something to reduce the cost of living, will the strike be withdrawn?" asked Mr. Esch.

"I am not advised as to what the other organizations will do," answered Mr. Stone, "but if you reduce the cost of living you will solve the problem of industrial unrest."

"Have you any concrete suggestions for reducing the cost of living?"

"No. We want to see what the President and the government will do. If they fail, and I hope they don't fail, I am satisfied the labor organizations can do something."

"Have you any suggestions to make as to what Congress can do?" said Mr. Esch.

"I think we could offer you many, but they are not in concrete form at this time. We might advocate a firing squad for some kinds of people."

"You say you will not brook delay; yet you have no concrete suggestions to make. Shouldn't Congress have some time to deal with the problem?"

"Congress should have seen this was coming months ago. The working man knew it, but it looked as if Congress was going to go away and take a summer vacation."

Mr. Esch pointed out that even if Congress had taken a vacation the committees were to remain in session in an effort to work out some of the problems.

"We realize that an increase in wages is only temporary relief," Mr. Stone said, "but if it takes a bushel basket of dollars for a man to live 30 days then his wage for 30 days must be a bushel basket of dollars. A dollar now is worth only 43 cents."

"Isn't that the result of the war influence?" said Mr. Esch.

"Pardon me, I cannot agree to that. It is due to the system of profiteering that has been developed since the war. Prices are higher today than they were during the war period and there is no excuse for it. Yet up to date no one has done anything to remedy the situation."

Mr. Stone, as an example, stated that carloads of food are thrown on a dump in Cleveland every day in order to keep prices up, and when it was suggested that this was a problem for the municipality he said similar conditions exist all over the country and that the government ought to do something about it. He said Congress was able to do a good many things during the war period and that it ought to be able to control prices.

Representative Winslow then took up the questioning, asking first whether the Plumb Plan League had been authorized by a referendum or any definite expression of the members themselves. Mr. Stone said it had been organized by the officers with full authority to speak and with a knowledge of what the members wanted. Mr. Winslow wanted to know if any of the two million railroad men Mr. Stone had mentioned as supporters of the plan were included in the three and one-half million members of the American Federation of Labor he had mentioned in the same way. Mr. Stone turned to Mr. Morrison, who said he was unable to give the exact figure. Mr. Winslow said he would like to know whether the real number was five and one-half million or whether this represented duplication.

Referring to statements that labor always got the worst of it while capital is always protected, Mr. Winslow asked if every business did not have periods of depression when there were no profits and no dividends and which might properly be offset by larger profits in a good year. Mr. Stone replied that labor always suffers when capital does not make its money and that such conditions might be due to mismanagement and overcapitalization. "It is a question anyway," he said, "whether capital is entitled to any return or not."

"What do you think Congress should have done to reduce the cost of living?" asked Mr. Winslow.

"Well, Congress could have seen this coming months ago, but it was so busy playing politics that it had no time to pay attention to the common people."

"Is that your answer?"

"It should have done something about the cost of living, not merely talk about it."

"What should Congress have done and when should it have done it? Let us suppose we are boneheads and have not seen it; what do you say we should have done?"

"You should have done something to stop profiteering and as soon as you met in session."

"That marks the time," said Mr. Winslow, "but I ask

you frankly as man to man, with no halo around either of us, what should we have done?"

"After we have had a reasonable time to see what the government does, I think we can formulate a plan. I have no concrete remedy to propose this morning."

"But suppose Congress is of the same mind after having perhaps given the subject more investigation than you have given it?"

"They could get some suggestions from their constituents."

"Yes, but no remedy. Then, so far as you are concerned as a witness, we do not get any help?"

"I have some ideas, but I am talking about government ownership of the railroads now."

Representative Sanders asked Mr. Stone's opinion regarding government ownership of coal mines. The witness was not prepared to discuss that question.

"There is a propaganda being carefully circulated," he said, "that this is only a move to have the government take over everything, but we are only dealing with the railroads. I think there should be some regulation of the price of coal, at least. Whether the government at some time should take over all natural resources is a question for the future."

Representative Rayburn asked if Mr. Stone believed in a general price-fixing scheme.

"Unless we get some other solution," replied Mr. Stone.

Mr. Rayburn then read the statement attributed to B. M. Jewell, chairman of the shop employees' committee, threatening to tie the railroads up so tight they would never run again. Mr. Stone said he had no authority to speak for Mr. Jewell and questioned whether he had made such a statement because it was sheer nonsense. "We know the railroads are going to run some way," he said, "if the government has to do it."

Representative Denison asked if the adoption of the Plumb plan would not have great influence on its spread to other industries. Mr. Stone said that if under it they were able to show a better operation of the railroads it would undoubtedly have such an influence. He would not think it wise to begin now on a policy of socializing industry, but he thought the time had come for the government to take over the railroads. "Any other plan," he insisted, "would simply mean financial panic and chaos and result in receiverships of a number of railroads inside of 30 days because they could not meet interest charges." Mr. Denison asked if Congress could not possibly prevent a panic in some other way.

"Yes, by subsidizing them," Mr. Stone said. "That is the plan proposed by capital interests. The proposed guaranty means a subsidy and there is no reason why the railroads should be given a guaranty any more than labor. The Railroad Administration agrees that we should have a 25 per cent increase, but that it has no money to pay it."

Mr. Denison asked why, if the time has come for the government to take over the railroads, the same thing does not apply to other public utilities that are in a similar condition. Mr. Stone said he was not so familiar with other industries.

"Do you desire an increase in wages under your plan?" asked Representative Montague.

"Under our plan," replied Mr. Stone, "there can be no increase in wages until we have shown a profit."

"But suppose you do not show a profit?"

"We are going to," insisted Mr. Stone. "There is no argument about that. We know that we can."

"At prevailing rates?"

"We think so; yes."

"Do you believe rates are going up, or down?"

"I think we can show a reduction," replied Mr. Stone.

"How long will it take; how many years?"

"I wouldn't undertake to say," replied the witness, "but you must remember there can be no increase unless the Interstate Commerce Commission says so."

Testimony of Frank Morrison

Frank Morrison, secretary of the American Federation of Labor, said, in part:

"In all discussions of this question it would be well to bear in mind that quasi-public corporations are created for service and not for profit. A long line of decisions, from the Supreme Court of the United States down have invariably held that the fundamental purpose of these corporations is to serve the public and that they are only entitled to a fair remuneration.

"Hardly any one will deny that under private management the railroads have been financial footballs, and that they have been directed by interests whose wreckage of numerous railroad systems is common knowledge. This wreckage has been accompanied by a debauching of legislatures and other political activity that tested democratic institutions.

"The times call for new arrangements in the management of properties that are only made possible by the public's consent. The passage of the Sims bill will re-establish the theory that railroads should be operated for public service rather than for private profit.

"Aside from the application of democracy in these properties, and their handling by practical railroad men, the Sims bill will squeeze all fictitious value out of these properties. This will affect living costs and reduce charges the public must now meet, for then it will no longer be necessary to compel the railroads to earn dividends on millions of dollars of watered stock."

Regarding the question raised by Representative Winslow as to the number of supporters of the Plumb plan, Mr. Morrison said that the membership of the federation was 3,700,000 paid members and over 4,000,000 if those not paid be taken into consideration and that including the brotherhoods the total would be brought up to 4,700,000. It also claims to represent all other organized labor and therefore that all the wage workers of the country have endorsed the plan. He said that of the 14 railroad labor organizations in the Plumb Plan League, 10 are members of the federation, two, the conductors and engineers, have made applications for membership and the Brotherhood of Railroad Trainmen has authorized negotiations with the officers of the federation to become a member.

Chairman Esch asked what method could be used to develop the public sentiment of the country as to the plan. Mr. Morrison said that any method that could be used to convince the public that the plan was necessary should be followed, that duress was not a part of the plan, but that it proposed to educate the public and to support the men, regardless of party, who would favor labor's plan. Mr. Esch asked if, assuming the Plumb plan is not adopted by Congress at this session, an effort will be made to submit the proposition to the people by a national referendum. Mr. Morrison did not give a direct answer to this and showed a marked aversion to giving a direct answer to many of the questions that followed. He said that members of Congress were supposed to represent public opinion and could easily find out the sentiment of the people in their districts.

Representative Rayburn led the witness through a number of questions in which Mr. Rayburn took the position that wages in the last analysis would be settled by the board of directors, on which the employees, including the officers, would be two to one as against the representatives of the public. Mr. Morrison would not agree that the officers would vote with the representatives of the employees.

Mr. Winslow tried to get the witness' opinion of a suggestion that all wages be reduced 25 per cent for the purpose of reducing the cost of production and thereby decreasing the cost of living. Mr. Morrison preferred to discuss this question in terms of government employees rather than in terms of the workers engaged in a productive capacity. Mr.

Winslow then put to the witness the following two questions which he had prepared and on which he asked a careful answer:

"Has labor, including railroad labor, at any time, in any country, ever been so well fed, so well clothed, so well housed, so well entertained, and so well furnished in its homes, as is labor in the United States today?"

"Has labor ever been so well off in respect to bank deposits and other evidence of savings and prosperity as now?"

Mr. Morrison went into a long discussion which did not answer the questions, saying that when four million went into the army it reduced the problem of unemployment and kept the people pretty well employed for long hours and for extra compensation. That, he said, however, was a war condition, changed since the armistice, and now there is a great deal of unemployment and unrest.

"Do you prefer not to answer my question?" asked Mr. Winslow.

"Well, taking into consideration the fact that railroad men have received only 37 per cent increase in wages, while the cost of living went up 82 per cent, it is not possible that they should be in as good condition as they were."

After considerable argument Mr. Winslow repeated the questions. As to the second, Mr. Morrison replied that he had no accurate information, but that taking into consideration the great efforts made to promote thrift during the war, the railroad employees, being loyal citizens, naturally deprived themselves of a great many things and there was no question in his mind that labor has saved more.

In reply to Representative Webster, he admitted that if wages were increased the probable result would be a further increase in prices, but when Mr. Webster suggested that for this reason the idea of increasing wages as a remedy should be set aside while Congress devoted its attention to some better method, the witness demurred, saying that the railroad men are entitled to a large increase now and will need it during the time required by the effort to reduce the cost of living.

"But we are after a cure, not a palliation," said Mr. Webster, "and since both you and Mr. Stone admit that an increase in wages will result in an increase in the cost of living, must we not, in our search for a cure, lay aside that remedy? You want us to engage simultaneously in the task of increasing the cost of living and reducing it."

"I don't believe wages are the cause for the cost of living," replied Mr. Morrison. He admitted that it would take a long time to put the Plumb plan into effect, but declared that in the meantime the workers should be protected by being put on a basis as good as they enjoyed in 1914."

"But both you and Mr. Stone concede that the Plumb plan is not a panacea for the high cost of living. Would it not be the part of good sense for Congress to lay the Plumb plan on the shelf for the time and devote itself to immediate consideration of some immediate remedy, particularly since the Plumb plan is revolutionary and experimental?"

"But I understand the proposition before your committee is this bill," said Mr. Morrison. "The high cost of living affects every one and there will be other hearings on that. We are here today to advocate this bill."

Mr. Webster tried repeatedly to get the witness to say whether the united effort on the part of the government to reduce the cost of living would not be preferable to a wage increase at this time. Mr. Morrison thought that the railroad men should not suffer the increased cost while a solution is being worked out.

"But you propose to increase the cost to the public generally while we are working on it," said Mr. Webster.

Mr. Morrison insisted that the Plumb plan would assist in the solution of the difficulty and that the Railroad Administration had not given its employees the wages they have been entitled to.

In concluding the questioning, Mr. Webster said that he was perfectly willing to sit night and day in order to give a fair and intelligent consideration to any plan proposed, but that he would not be dominated or coerced by any threat, however vaguely conveyed, as to what organized labor will do to him if he does not vote as they wish.

"I am sorry," said Mr. Morrison, "if any one has got the idea that we are threatening, but there is an unrest in this country because men are not receiving what they should have and great bodies of them have already gone on strike in spite of the efforts of their officers. There comes a time when the burden is too great, and when that time comes you may expect revolution, to the extent at least of strikes."

Other Witnesses

R. C. Fulbright, representing a number of Texas shippers' associations, testified before the committee on July 31 and August 1, making a strong argument for the establishment of six regional commissions under the Interstate Commerce Commission, to relieve the Interstate Commerce Commission of a burden of detail and to supplement the local regulation of the state commissions. He pointed out that the Esch-Pomerene bill makes no provision for regional commissions, although, he said, the demand for them is very general. The work of railway regulation has become so vast, he said, and complicated, that the commission needs the assistance of other bodies and power to delegate some of its work to them. Regional commissions would expedite the handling of cases, bring regulation closer to the people, insure greater efficiency in the routine of regulation, and promote better cooperation and understanding between both shippers and carriers and between the state and the interstate commissions. The commission now cannot pass upon a formal complaint in much less than a year, and the Esch-Pomerene bill proposes to give it several classes of additional functions. The commission, Mr. Fulbright said, is the hardest-working group of public officials he had ever had anything to do with, but it is physically impossible for them to give real consideration to all the cases that come to them for decision.

John Martin, representing the Railway Investor's League, proposed the abolition of the Interstate Commerce Commission on the ground that it has outlived its usefulness, and the creation of a federal transportation board. He urged the consolidation of the railroads into 15 or 20 systems and a Government guaranty of 4½ per cent.

W. A. Wimbish, of Atlanta, Ga., special counsel for the Southern Traffic League, testified before the committee on Tuesday and counseled it not to be stampeded by the demands of the labor organizations, but to "sit tight," and proceed with its hearing just as it otherwise would do.

"If you are considering Government ownership or this new radical proposition," he said, "if you propose to lie down supinely and let any interest in this country, capital or labor, dictate what Congress shall do, I have little to say to you, but I don't think you are going to be stampeded, because you would be condemned by your constituents, and I can't think that this proposition represents even the thought of intelligent working men."

Mr. Wimbish then gave his views on the railroad problem generally, supporting the Esch-Pomerene bill, which he said came nearer meeting what is required than any plan that has been presented. He declared that the return of the roads would not mean bankruptcy to the Southern roads, which he was particularly interested in, nor to the trans-continental lines. He thought the commission in fixing rates ought to take into consideration the cost of labor and the cost of capital, but that it ought not be bound by either. The railroads had got along very well financially before Government control, and no radical changes in the system of regulation were necessary. Therefore he opposed most of the plans that have been advanced.

General News Department

The Senate has confirmed the appointment of John Barton Payne, now general counsel of the Railroad Administration, as a member of the Shipping Board.

The Bill appropriating \$17,000,000 additional to complete the construction of the Alaska railroad has been made the subject of a favorable report by the House committee on territories; and members of the territories and appropriations committees have gone to Alaska to inspect the road.

E. E. Betts, superintendent of transportation of the Chicago & North Western, with headquarters at Chicago, and vice-president of the General Superintendents' Association of Chicago, has been elected president of that Association, and W. C. Staffa, superintendent of the car service on the Chicago & Alton, Chicago, has been elected vice-president.

Near Verona, Italy, on August 2, fourteen persons were killed when the airplane in which they were flying fell to the ground from a height of more than 3,000 ft. The airplane was a Caproni, which had started from Venice for Milan. Press despatches report the fall as due to an explosion caused by the careless use of a cigar or cigarette by one of the passengers.

Rubber tires to the number 2,300 figure in the latest reported freight car robbery. Near Alliance, Ohio, one night last week, thieves, armed with shotguns, held up a freight train crew while they unloaded the tires and carried them off in motor trucks. Press despatches say that there were six men in the gang.

Edward H. Shaughnessy, formerly trainmaster of the Galena division of the Chicago & North Western, with headquarters at Chicago, and lately a lieutenant in the Thirteenth (Railway) Engineers, has been commissioned a lieutenant-colonel, in charge of transportation for the American expeditionary force. He has been awarded the distinguished service medal "for meritorious performance of the highest type in the prosecution of his duties."

Isaiah Hale, safety superintendent of the Atchison, Topeka & Santa Fe, in a recent bulletin devoted to the interest of the safety-first movement says that 40 per cent of the injury reports which passed over his desk during a ten-day period consisted of mashed toes. "No favorites are played," says Mr. Hale, "it is the major toe as often as the little buck private toe down at the foot. The cases range from the man who drops a coupler on his toe, to the man who steps on his own feet. The law of gravity is universal: if an object is unsupported it falls and keeps on falling until it strikes the earth—or your own or some other fellow's toe. Toe injuries threaten to make our personal injury record look bad; there is nothing fanciful about them, they are a stern reality." And the sensation monger who glories in large totals of "killed and injured" can make as much out of a mashed toe as out of a broken neck.

Frauds in the sale of unclaimed freight are charged in indictments against two expert brokers who were arraigned in the United States District Court, in New York City, August 1, and held in bail of \$25,000 each for trial in October. Two clerks in the freight claim office of the Central of New Jersey have been indicted on charges of having accepted bribes to approve fraudulent dealings with these sales agents. Between June, 1917, and March, 1919, it is alleged that about \$100,000 was stolen by rendering to the railroad company false reports, showing sums much smaller than those for which the goods actually were sold. The irregularities were discovered by an investigator of the Interstate Commerce Commission, who examined the books of the claim department of the railroad. Similar but smaller frauds have been

committed against the Central Vermont and the Long Island railroads.

The railroads of Detroit, Mich., ought to pool their freight and passenger service to prevent duplication of effort; at least, so says the City Council, which body has decided to appeal to the Interstate Commerce Commission, the United States Railroad Administration, the Public Utilities Commission of Michigan, and the Michigan representatives in Congress, to bring about such unification. The Toledo and the Bay City divisions of the Michigan Central form a direct straight line across the city from the southwest to the northeast. Between the west city limits and Milwaukee junction, this line has been paralleled by the Grand Trunk and the Wabash with freight spurs. The old main line of the New York Central (the Lake Shore) is now being used for freight only from West Detroit. These parallel lines already have expended \$2,250,000 for grade separation. The councilmen declare that one railroad would serve the industries as well as four. The City Council also has plans for the establishment of "rapid transit" for the benefit of workers in the factories along the Bay City, and Toledo divisions of the Michigan Central. A group of large manufacturers are preparing a petition to present to the Michigan Central for the installation of gas-driven passenger cars. Henry Russell, vice-president and general counsel of the railroad, tells the councilmen, however, that the company's tracks are now being used already to their full capacity for regular passenger and freight service, and further, the workmen would have long distances to walk as the railroad lines do not touch the residential districts. The industrial growth of Detroit is so rapid that the railroads have got to devise some way of increasing their facilities to handle freight instead of overloading them with this local passenger service.

Signal Division—A. R. A.

H. S. Balliet, secretary, 75 Church street, New York city, has issued the call for the annual meeting of the American Railroad Association, Signal Division, to be held at Congress Hotel and Annex, Chicago, on Wednesday, Thursday and Friday, September 17, 18 and 19. The notice of the meeting, containing reports of committees, will be issued on September 2. Orders for rooms at the hotel should be sent by members direct, at an early date. Rooms for one person, with detached bath, \$2.50 to \$3 a day; for two persons, \$3 to \$5 a day. Room with bath, \$3.50 to \$6 a day; or, for two persons, from \$5 to \$10.

Pullman Porters and the Chicago Riots

A serious problem confronted Chicago's railroads and the Pullman Company at Chicago in the handling of their colored employees during the race riots in that city from July 27 to August 2. The problem was successfully solved, however, by the adoption of a plan whereby the colored employees on the passenger lines upon arriving in Chicago were immediately assigned to outgoing trains, thereby eliminating their layovers in Chicago to a large extent. When this was impossible, the men were given permission to remain in the cars in which they arrived, until such time as they could be assigned to outgoing trains. In this manner the majority of the thousands of colored men on railroads entering Chicago were able to avoid any serious clashes.

A surprisingly small number of the 1,200 Pullman porters, cooks and other employees failed to report for regular work during the period of the rioting. Adequate guards were provided at the railroad yards to protect the men and where it was necessary for them to return to their homes they were provided with police protection.

Chicago & Alton

In the July 18 issue of the *Railway Age*, on page 125, the passenger earnings of the Chicago & Alton are shown as \$5,407,589 for the month of May. This should be \$540,759.

One Perfect Railroad—Almost

The above is the title of an interesting pamphlet issued by George Bradshaw, supervisor of safety of the Pere Marquette and other roads under the jurisdiction of federal manager Frank H. Alfred. The road in question is described as being less than 500 miles long and it has more than one main track. It is one of the few roads that have been able to pay a regular 10 per cent dividend and in addition extra dividends running as high as 40 per cent. The road's cars and engines, if coupled together, would make a train considerably greater than the total main line mileage of the road and the yard and siding mileage of this road is approximately three times its main line roadway. The main line is stone ballasted and equipped with automatic block signals and its shops are provided with the latest machines; in fact, the road, physically, is as near perfect as possible. However, of the 12,000 employees on this near-perfect road, 27 were killed last year; and not one of these met death accidentally or by reason of an unsafe physical condition. In other words, every one of the 27 men was killed on account of the failure on the part of himself or some other employee to use reasonable care in performing his duty. Hence, the title "One Perfect Railroad—Almost."

Proposal to Include Coast and Geodetic Surveys Under National Department of Public Works

One advantage to accrue from the organization of a National Department of Public Works in accordance with the bills recently introduced in both houses of Congress would be the correlation of the work of the Coast and Geodetic Survey with other activities of an allied nature now being conducted by other departments of the government. The principal work of the Survey is the charting and sounding of the coast waters of this country. This is strictly an engineering work, done by and under the supervision of engineers. The next activity of the Survey is the providing of horizontal and vertical control points throughout the interior of the country. This is of the highest importance as it provides skeleton framework on which all other surveys should be based. It is important to note, however, that a large number of other government agencies are also engaged in map making. These include the Corps of Engineers, the Geological survey, the Land office, the Bureau of Indian Affairs, the Forest service, the Boundary commission, the Bureau of Roads and Rural Engineering, the Bureau of soils, the Reclamation service and the Hydrographic survey of the navy. This results in a large amount of confusion that could be eliminated by the co-ordination of all of this work under a Department of Public Works. This is particularly pertinent with respect to the Coast and Geodetic Survey since it necessarily forms the foundation for all survey work. It would result in a comprehensive mapping and leveling plan of inestimable value to the railroads and land owners and others who have occasion to make use of the maps and records of any of the existing survey bureaus. There is no work of the survey that does not fit well with the work planned for the Department of Public Works. It is essentially engineering work and should consequently belong in the national department designed to correlate all engineering activities of the government.

Northwestern fruit growers, at a hearing recently conducted by Examiner Marshall of the Interstate Commerce Commission, at Portland, Ore., on the proposed Perishable Protective Tariff No. 1, declared that the rate increases proposed in this tariff would endanger the industry in that district; and they thought that the adoption of some of the rules in the tariff would practically eliminate the carriers' liability on fruit shipments. The fruitmen are backed up by the Public Service Commissions of Oregon and Washington.

Traffic News

In accordance with notice previously given, the permit system for the shipment of grain was put into effect on August 1. In lieu of the individual permit system that was in effect last year (and which will be continued this year on a portion of the traffic), a so-called blanket permit system is now in operation, experimentally.

Because of the fact that locomotives operating over the National lines of Mexico between Laredo, Tex., and Pochica, Mexico, must be moved to San Antonio, Tex., for repairs, the International & Great Northern has petitioned the Dallas District Freight Traffic Committee for a reduction in rates on this movement from \$0.26½ per 100 lb. to \$0.09½ per 100 lb., the same basis as that which applies on intra-state movements in this territory.

The House committee on interstate and foreign commerce has voted 6 to 5 to report favorably the Cummins bill, already passed by the Senate, to restore the former jurisdiction of the Interstate Commerce Commission and the state commissions over rates. This would leave the director general subject to the same restrictions as were formerly imposed upon the railways, including the suspension power, except that the House committee adopted an amendment proposed by the Interstate Commerce Commission to remove the requirement of approval of the Interstate Commerce Commission before a tariff containing an increased rate may be filed. The committee also adopted an amendment to provide that no change or increase shall be made in interstate rates without having first secured the approval of the state authorities.

Traffic conditions throughout the country for the week ended July 28, 1919, were somewhat improved over the previous week in several regions, but as a general thing the movement was behind that for the same period in 1918. In the Northwestern region freight loaded for the week totaled 164,819 cars, a decrease of 2 per cent. In the Pocahontas region, compared with July 28, 1918, tidewater coal dumped decreased 54 per cent, coal and coke 12 per cent and other freight 12 per cent. In the Southern region, although the situation shows steady improvement for the last week in July, 1919, car loadings decreased 6,700 under the same period for 1918. In the Central Western region there has been an increase in the total traffic handled, both as compared with the same period last year and with previous weeks of the current year.

Senate Inquires About Coal Cars

The Senate on August 4 adopted a resolution introduced by Senator Pomerene calling on the director general of railroads to inform the Senate regarding the number of coal cars now in use in the transportation of coal, the number of empty coal cars which are suitable and available, whether the coal cars belonging to the railroads under federal control are now or have been during the past six months sufficient to meet the demand, the number constructed and purchased which have not been sold or transferred to the railroad companies and the reasons therefor, the methods adopted to supply producers of coal with necessary cars and any action by Congress which may be required in order to meet demands. Senator Pomerene had a number of letters from coal men complaining of car shortages and apparently did not know that the Railroad Administration had already taken steps to put into service the U. S. R. A. cars which had been accepted by the railroad companies, as announced in *The Railway Age* last week. The Columbia Trust Company of New York has been appointed by the Railroad Administration to be trustee to hold title to a large number of these new cars, pending the adjustment of questions respecting their allocation which are now being studied in connection with the plans for a general equipment trust.

Commission and Court News

Interstate Commerce Commission

At the request of the director general, the Interstate Commerce Commission has ordered an investigation as to the rates and regulations applying on grain and grain products from points in Idaho, Montana, North Dakota, South Dakota, Minnesota, Wisconsin, Iowa and Nebraska. The Railroad Administration in General Order No. 28 increased the rates and numerous complaints have been made regarding the disturbance of the parity formerly existing as between markets and interior milling points and as between country shipping points and markets.

Bill of Lading Order Postponed

Because of the injunction obtained by the Alaska Steamship Company and other carriers to restrain the enforcement of the Interstate Commerce Commission's order of April 14 prescribing forms of bills of lading, the commission has postponed the effective date of its order until further order of the commission.

State Commissions

The New York State Public Service Commission, First District, which has been asked by the city authorities of New York City, to revoke its approval of the increase in fares on surface street cars in Manhattan and the Bronx (a charge of two cents for transfers from one line to another where heretofore the transfer has been free) will not decide the question for two weeks yet; but the proceedings do not operate as a stay, and the transfer charge is now in effect. The counsel for the city alleges that each of the 99 points where the two-cent charge is imposed has been designated in the franchises of the company as a free transfer point. The Public Service Commissioner says that he has allowed the tariff, making the charge two cents, instead of approving three cents, as requested by the receiver in charge of the car lines, because he feels sure that there will be an increase in traffic sufficient to enable the company to maintain its facilities.

Court News

Federal Safety Appliance Act

The Circuit Court of Appeals, Eighth Circuit, holds that the movement by a switch engine of 40 or more cars coupled together over a Duluth terminal track, used only to connect different terminal yards, over which no through or local trains pass, and on which trains are moved slowly, without orders, time cards, or block signals, is a switching operation, and not within the air brake provision of section 1 of the federal Safety Appliance Act.—U. S. v. Northern Pacific, 255 Fed. 655.

The Circuit Court of Appeals, Fifth Circuit, holds that the movement by a switch engine of 30 to 50 cars, coupled together, some containing interstate shipments, for several miles, crossing main line tracks of several railroads and streets at grade, and running for parts of the distance over main line tracks, although in a network of tracks commonly called the city yards, was not a switching operation, but the running of a train, and the failure to connect up the air brakes was a violation of section 2 of the federal Safety Appliance Act.—U. S. v. G. H. & H., 255 Fed. 755.

Failure to comply with the federal Safety Appliance Act requiring hand brakes is held by the Circuit Court of Appeals, Second Circuit, to render a railroad company liable for injuries to a switchman resulting from such violation, although the punishment fixed by the statute is a penalty recoverable at the suit of the United States.—D., L. & W. v. Peck, 255 Fed. 261.

Foreign Railway News

Increased Use of Electricity in Norway

The continued rapid extension of the hydroelectrical development of Norway seems assured. In addition to the extensive plans which have been formulated and are being carried into effect relating to development of water power in nearly all sections of the country, there has been begun an active campaign for bringing before consumers the value and economy of electric power. Even now, in some sections of Norway electricity is used for running sawmills and heating homes in districts where timber is the principal produce marketed.—U. S. Commerce Report No. 172.

To Return Mexican Railways to Private Owners

A press despatch from Mexico City, dated July 31, is authority for the statement that the Mexican Railway and the Pan American Railway, which systems traverse the territory between the capital and the Gulf of Mexico and the Isthmus, have been turned back to separate management. Information from reliable sources is to the effect that the Government probably will return the systems to the private owners within a month.

The management of these systems had been merged with that of the national lines since Colonel Paulino Fontes, former manager of these lines, took over the management of the National Railways.

The Mexican Railway, which controls the important line from Vera Cruz to Mexico City, is a British-owned property. It was handed over to the Carranza Government on April 3, 1917. The stock of the Pan American Railway is owned by the National Railways of Mexico.

Traffic on Siberian Railways Disturbed

Press despatches from Vladivostok report that on July 18 the Inter-Allied Railway Commission sent a formal protest to the Omsk Government of Admiral Kolchak against violations of the Inter-Allied agreement regarding the operation of railways. The communication demands that the Russians live up to the agreement which they signed, and are a party to, if the Government expects Allied aid. The removal of General Semenov from the zone where he can interfere with railroad operations also is asked.

The violations have chiefly been through the military station commandants, who sell tickets, allot cars and attempt general supervision of traffic, a duty assigned to the technical board of the American Railway Commission to Russia, under the chairmanship of John F. Stevens.

The chief disturber is alleged to be General Semenov, who appears to be the dominating figure in the trans-Baikal sector.

The United States has furnished \$4,000,000 and China \$500,000 for the railroad reorganization, while the other allies have promised funds.

Conditions Affecting Trade With Siberia

Numerous inquiries have been received in Washington regarding the conditions and regulations surrounding trade with Siberia. In order to clear up certain misapprehensions regarding trade with this region the following notes have been compiled by the Foreign Trade Advisers' Office of the Department of State.

The so-called Allied Purchasing Committee, of which Capt. George E. Spengler is chairman, is a subcommittee of the Interallied Technical Board of the Committee for Supervision of the Chinese Eastern and Transsiberian Railways. This committee will make purchases of supplies and materials for the Siberian railways by direction of John F. Stevens, president of the Technical Board of the Interallied Committee. All orders for material to be purchased in the United States for use in connection with the railways will

be placed by the committee through the Director General of Military Railways, War Department. This committee has nothing to do with purchases of other than railway material and supplies. The Director General of Military Railways is in close touch with all American manufacturers and is in a position to expedite orders for badly needed supplies.

Reduced Cost of Living to Help German Railway Men

Press despatches from Berlin reported the Government has appropriated one and a half billion marks to be spent in three months for the purpose of reducing the cost of food. The despatches say that the cutting down of the cost of living is the direct result of the railroad strike. The railroad men asked for higher wages and accepted cheaper food as a compromise. The reduction means a weekly saving of about 27 marks, \$6.75, to every worker in Germany, according to an announcement of Railroad Minister Oesar, made in the Prussian Diet.

Granting the demands of the striking railroad men would have cost four billion marks, \$1,000,000,000, German railroads formerly the best paying investment of the Prussian state, are losing money at a rate of from three to four billion marks a year. Wage demands, if granted, would have increased the total deficit. It would also be impossible to raise the passenger

Minister Oesar, reporting the food agreement to the diet, said it would be impossible to raise an additional seven or eight billion marks by taxation, to make good the railroad deficit for the year to almost eight billion marks, \$2,000,000,000, and freight rates again, because higher freight rates would merely increase the cost of living further.

Plight of the Russian Railways

The Russian railway system threatens to collapse, owing to the fact that no repairs have been effected since the revolution, says an article in the Reconstruction Supplement of the Review of the Foreign Press issued by the British War Office. The station buildings are for the most part deserted, the warehouses falling in, and the central switches and signalling apparatus no longer work, owing to the lack of spares with which to replace the wornout parts.

No modern electric or automatic signalling and loading apparatus exists on the Russian railways. The railway workshops were obliged to hand over important parts of their machinery to the munition workshops. This absence of necessary machinery and instruments is especially felt in the locomotive shops. The number of railway engines out of repair amounted in March, 1916, to 17.3 per cent; March, 1917, 23 per cent; March, 1918, 35.3 per cent; March, 1919, 52.4 per cent. The number of freight cars out of repair amounted in March, 1916, to 3.4 per cent; March, 1917, to 5.4 per cent; March, 1918, to 9.1 per cent; March, 1919, to 18.8 per cent.

The railway bridges and railway lines are also in a state of decay and have in some cases been badly damaged as a result of civil war. Little is heard in the press of the numerous accidents that take place in consequence of trains running off the lines. The work of repair is often hindered by the passive resistance of railway workers antagonistic to the Soviet regime. For lack of raw material, the number of engines built in 1918 was considerably reduced. In 1917, 520 locomotives were able to be built in Russian foundries, but only 191 in 1918, 152 of which were intended for goods traffic, and only 39 for passenger trains. Since the taking of the Urals by Kolchak's army, the production of pig-iron for rails has entirely ceased as far as the requirements of Soviet Russia are concerned and few new lines can be built.

In January, 1916, there were still 72,743, and in January, 1917, 70,118 freight cars, running daily; in January, 1918, this number had decreased to 16,644, and in January, 1919, it had sunk to 13,193 cars. The working capacity of the engines has fallen off in a similar degree. In 1918 they were capable of travelling only about 35 miles per day. Naturally the financial results of the railways are unsatisfactory. Up to 1916 the balance-sheet still showed a profit. In 1917, however, there was a deficit of R. 1.9 milliards, and in 1918 the deficit rose to R. 8 milliards. The measures taken by the Soviet Government are too late to prevent the ruin of the Russian railway system.

Equipment and Supplies

Locomotive Deliveries Week Ended July 26

The following new locomotives were shipped during the week ended July 26:

Works	Road	Number	Type
American	Virginian	2	USRA Mallet
	Total	2	
	P. L. W.	2	Mallet
	S. P.	1	Sante Fe
	C. & S.	2	USRA S. F.
	C. R. I. & P.	3	USRA Mikado
Baldwin	P. & R.	1	Mallet
	B. & O.	1	USRA Pacific
	A. T. & S. F.	4	Santa Fe
	A. T. & S. F.	1	Pacific
	P. L. W.	3	USRA S. F.
	Total	18	
	Grand Total	20	

Locomotives

THE PESANT COMPANY (Cuba) has ordered one Mogul locomotive from the American Locomotive Company. This locomotive will have 17 by 24 in. cylinders and a total weight in working order of 110,000 lb.

THE CERRO DE PASCO RAILWAY (Peru) has ordered two Consolidation locomotives from the American Locomotive Company. These locomotives will have 21 by 28 in. cylinders, and a total weight in working order of 164,000 lb.

THE AMERICAN TRADING COMPANY (Cuba) has ordered one Consolidation locomotive from the American Locomotive Company. This locomotive will have 18 by 24 in. cylinders and a total weight in working order of 125,000 lb.

THE TAIWAN RAILWAYS (Formosa) have ordered three Consolidation locomotives from the American Locomotive Company. These locomotives will have 20 by 24 in. cylinders, and a total weight in working order of 134,000 lb.

THE IMPERIAL KARAFUTA GOVERNMENT (Japan) has ordered four Prairie locomotives from the American Locomotive Company. These locomotives will have 14 by 22 in. cylinders and a total weight in working order of 90,000 lb.

THE TATA IRON & STEEL COMPANY (India) has ordered eight six-wheel switching locomotives from the American Locomotive Company. These locomotives will have 18 by 24 in. cylinders and a total weight in working order of 110,000 lb.

THE GOVERNMENT OF POLAND has given the Baldwin Locomotive Works an order for 150 Consolidation locomotives of a design similar to that of the locomotives which are supplied for the American military railroads in France. It is understood that the Baldwin Locomotive Works has arranged to finance the \$7,000,000 represented by the purchase over a period of ten years and has accepted an issue of ten-year equipment notes from the Polish Government.

THE UNITED RAILWAYS OF HAVANA have ordered 11 Consolidation, four six-wheel switching, and two Prairie type locomotives from the American Locomotive Company. Of the Consolidation locomotives, ten will have 20 by 26 in. cylinders and a total weight in working order of 160,000 lb., and one will have 16 by 20 in. cylinders and a total weight of 97,000 lb. The six-wheel switching locomotives will have 19 by 24 in. cylinders and a total weight of 130,000 lb., and the Prairie type locomotives will have 17 by 24 in. cylinders and a total weight in working order of 114,000 lb.

Freight Cars

THE H. C. FRICK COKE COMPANY, Pittsburgh, Pa., is in the market for 1,260 mine cars.

THE KANNOTEX REFINING COMPANY, Kansas City, Kan., is inquiring for 20 50-ton, 10,000-gal. tank cars.

THE LUBRITE REFINING COMPANY, St. Louis, Mo., has ordered 20 50-ton, 10,000-gal. tank cars from the American Car & Foundry Company.

THE KENDALL REFINING COMPANY, Bradford, Pa., has ordered two 40-ton, 8,000-gal. tank cars from the American Car & Foundry Company.

THE TEXAS OIL COMPANY has ordered 500 tank cars from the Pennsylvania Tank Car Company, Sharon, Pa., and the General American Tank Car Corporation, Chicago.

THE PENNSYLVANIA EQUIPMENT COMPANY, 1420 Chestnut street, Philadelphia, Pa., is in the market for one second-hand flat car of about 60 tons' capacity and for 30 logging cars, with spring drawheads and of 40,000, 50,000 or 60,000 lb. capacity.

Passenger Cars

GEORGE H. CAREY, New York, is inquiring for 10 electric railway cars for export to Spain.

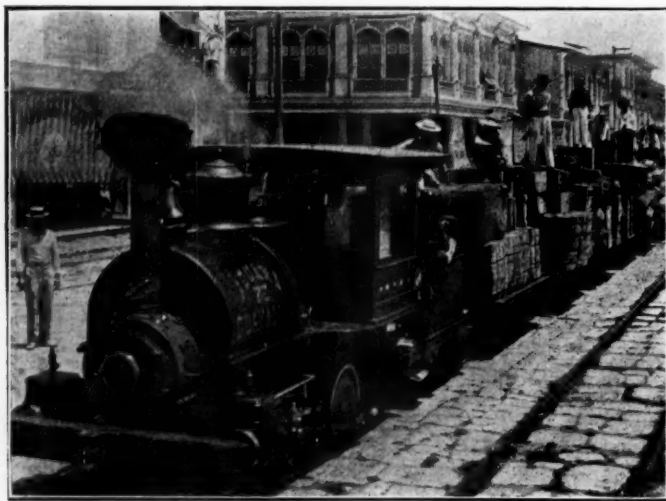
THE PEERLESS INTERNATIONAL CORP., New York, is inquiring for gasoline driven passenger cars for export to Cuba.

Signaling

THE LEHIGH VALLEY has ordered from the General Railway Signal Company an interlocking machine, style A, 32 levers, for Constable Junction, N. J., with ten electric locks; also a 32-lever machine for Pine Junction, N. J.

Trade Publications

BLAW CABLEWAYS.—The Blaw-Knox Company, Pittsburgh, Pa., has issued a 16-page booklet illustrating and describing the various appurtenances used in cableway construction, including carriages, falls, stops, spring bumpers, etc. The illustrations show the character of the devices and also the nature of the possible installations.



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Scenes from Foreign Ports—The Custom House Railway in Guayaquil, Ecuador

Supply Trade News

Earle W. Vinnedge has received his discharge from the military service and has been appointed sales engineer for the **Worthington Pump & Machinery Corp.**, New York, with headquarters at Cincinnati, Ohio.

The **Spencer Otis Company**, 747 Railway Exchange Bldg., Chicago, has been succeeded by the **DeRemer-Blatchford Company** effective Aug. 1, 1919. The change is purely one of name and the same headquarters will be retained by the DeRemer-Blatchford Company.

E. T. Sawyer has been appointed a representative of the railway sales department of the **U. S. Light & Heat Corporation**, Niagara Falls, N. Y. Mr. Sawyer will specialize on car lighting equipment and electric car welders and will have his headquarters at 30 East Forty-second street, New York City.

J. A. Massie, sales manager for the **Hoyt Electrical Instrument Works**, Penacook, N. H., has retired from active service with the company. He will continue to be identified with the organization through his interest in the **Burton-Rogers Company** which has been made the sales department of the Hoyt Electrical Instrument Works, M. T. Rogers will take over Mr. Massie's duties.

F. B. Hartman has been appointed representative of the **Hunt-Spiller Manufacturing Corporation**, Boston, Mass. He is to cover the southeastern district succeeding **J. M. Monroe**, who has resigned to become vice-president of the **Charles H. Long Company**. Previous to 1906 Mr. Hartman was in the service of the **Union Pacific** and later was with the **Southern Railway**, part of the time as general equipment inspector.

The **Hazard Manufacturing Company**, Wilkes-Barre, Pa., on July 1, opened a new sales office and warehouse at 1415 Wazee street, Denver, Colo., in charge of **Ernest P. Kipp**, district manager. The Denver office will cover the Intermountain district including in its territory Colorado, Wyoming, Montana, Idaho, Utah, New Mexico, and the western portions of Nebraska and South Dakota. Mr. Kipp served as a captain in the U. S. Engineers, and has received his honorable discharge.

Rolard S. Lebarre, assistant manager of sales for the **Cleveland, Ohio**, district of the **Carnegie Steel Company**, Pittsburgh, Pa., has resigned to become general sales manager of the alloy steel department of the **Interstate Iron & Steel Company**, Chicago. He began his business career 20 years ago with the **United States Steel Corporation** and in 1902 entered the sales department of the **Illinois Steel Company**. During the past 14 years he has been assistant district manager of sales for the **Carnegie Steel Company**, at Cleveland.

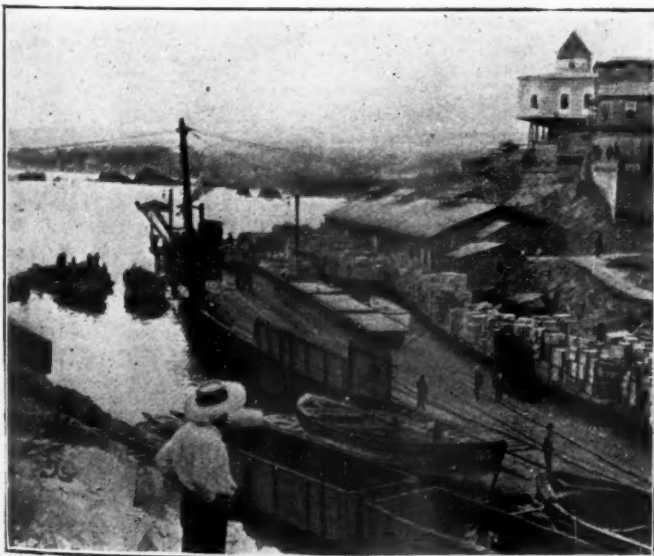
James H. Reed, senior member of the law firm of **Reed, Smith, Shawl & Beal**, Pittsburgh, Pa., and president of the **Bessemer & Lake Erie Railroad**, owned and operated by the **Carnegie Steel Company**, Pittsburgh, has resigned from all industrial boards on account of the present status of the interlocking directory act, which prohibits a director on a railroad from being a director of any industrial company that furnishes material to that railroad. For this reason, Judge Reed has resigned as a director of the **Pressed Steel Car Company**, Pittsburgh, and **J. H. Beal** has been elected in his place.

Thomas O. Morgan, until recently head of the service department of the New York office of the **American Steam Conveyor Corporation**, Chicago, has been promoted to sales engineer in charge of Long Island and Connecticut territory, and **H. S. Valentine** has been appointed sales engineer

in charge of Philadelphia territory with office in the North American building, Philadelphia, Pa. Mr. Valentine is a mechanical engineer and previously served with the Link Belt Company, Philadelphia, for five and one-half years, with the Brown Hoisting Machine Company and Yale & Towne Manufacturing Company for six years, and with the Badenhäusen Company, New York, manufacturers of water tube boilers, for one year.

George H. Richie, sales engineer in New England and Eastern Canada for the **Sullivan Machinery Company**, Chicago, has been promoted to New England sales manager, to succeed **George Elmer Wolcott**, deceased. **R. S. Weiner** has been appointed district manager with headquarters at El Paso, Tex., in place of **Don M. Sutor**, who has been transferred to the St. Louis, Mo., office as sales manager for Missouri, Arkansas, Eastern Texas, Oklahoma, Kansas (except the oil territory), Western Kentucky and Western Tennessee. **Phillips S. Jarvis** has resigned as sales manager for the territory controlled from the St. Louis office and **Marion C. Mitchell** has been appointed sales manager for the territory in Indiana and Illinois previously controlled from the St. Louis office, with temporary headquarters at St. Louis. **Daniel H. Hunter** has been appointed sales manager for Louisiana, Texas (except the southwestern section), and the oil fields of Oklahoma and Kansas with headquarters at Dallas, Tex.

The **Norton Grinding Company** and the **Norton Company**, both of Worcester, Mass., have been consolidated under the latter name. **George I. Alden**, who has been president of the Norton Company for some years, is chairman of the board of directors of the reorganized company, **Charles L. Allen** is president and general manager, **Aldus C. Higgins**, treasurer and general counsel and **George N. Jeppson**, secretary and works manager. Two new vice-presidents have been appointed. **W. LaCoste Neilson**, vice-president and foreign manager, and **Carl F. Dietz**, vice-president and general sales manager. A factory for the manufacture of abrasive products has been established in Japan and the company has secured control of the Hiroshima Grinding Wheel Company, at Hiroshima, near Kobe, Japan, which was established some years ago by the company's agents. Sales agencies have been established with native houses in several foreign countries, including England, France, Italy, Belgium, Denmark, Holland and connections will be formed in Norway and Sweden. A new store at Detroit, Mich., has also been opened under the management of C. W. Jinnette.



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Scenes from Foreign Ports—Merchandise Being Landed by Lighter at Mollendo, Peru

Railway Construction

BALTIMORE & OHIO.—A contract has been given to the Vang Construction Company, Cumberland, Md., for the masonry work required in the reconstruction of the Baltimore & Ohio Allegheny river bridge, at Thirty-third street, Pittsburgh, Pa.

CANADIAN ROADS.—John W. Stewart & Co., railway contractors, Vancouver, B. C., have been awarded a contract for the construction of a railway from Acme, Alberta, to Drumheller, a distance of 37 miles. Work was started on July 1.

CHICAGO & ALTON.—This road is now actively engaged in grading operations and track laying for its Harrison street freight terminal, Chicago. Bids will be asked for in about two weeks for the construction of two large freight houses.

The officers of the Chicago & Alton have submitted a proposition to the secretary of the Nutwood Drainage and Levee District, of Illinois, for the construction of a six-mile extension from Titus, Ill., south into the Nutwood district, with a branch line of one mile to the east bank of the Illinois river, opposite the town of Harding. The proposal requires that the property owners furnish the ties, the right-of-way and the work of grading, and the company is to furnish the steel, the ballast and the labor for track work. It is estimated the cost to the land owners in the district will be about \$75,000.

CHICAGO UNION STATION COMPANY.—A contract has been given to the Mellon, Stewart & Nelson Company, Chicago, for the grading and construction of six approach tracks to the Union Station, and two joint freight tracks for the Chicago & Alton freight terminal and the Pittsburgh, Port Wayne & Chicago freight connections in the territory between Twelfth and VanBuren streets. The work includes underground construction of cables for interlocking plant and necessary sewerage. The contract amounts to approximately \$200,000, not including material, which is furnished by the Station Company.

COLORADO ROADS.—Mining interests of Paradox Valley, Colo., are ready to invest large sums in the construction of an electric railway from their mines to some point on one of the larger lines in the state, according to James M. McBride, general manager of the Cashin mines in the Paradox Valley. Data is now being gathered with which to interest railroad builders.

PENNSYLVANIA.—This road has resumed work on the construction of a belt line around Detroit, Mich., after an interruption of more than a year. Prior to the suspension of this work in 1918 the Pennsylvania had purchased right-of-way for a six-mile extension around the city of Detroit from a connection with the Pere Marquette, north of Michigan avenue to Highland Park. Along this right-of-way sites for industries had been bought on the statement of the road that it proposed to proceed with the construction of this line at an early date. When the work was suspended, the owners of these industrial sites made no complaint, but this year they have asked that the road fulfill its promise of providing track connections and it is on account of this that the track laying has been authorized and is now in progress. Three hundred acres of land have been acquired west of the River Rouge near Oakwood, Mich., where the freight yards will be located. As now designed they will have an immediate capacity of 3,850 freight cars and an ultimate capacity of 12,000 cars. It is expected that as soon as the railroads are returned to corporate control, the work on the entire projected extension from Toledo, Ohio, to Detroit will be resumed.

PORT HURON & DETROIT.—Surveys are now being made for a single track from Marine City, Mich., to Detroit, a distance of 40 miles.

"Waste neither time nor money," said Benjamin Franklin. Money put in W. S. S. is not wasted; it's working for you.

ANNUAL REPORT

The Hocking Valley Railway Company—Twentieth Annual Report

Columbus, Ohio, July 1, 1919.

To the Stockholders:

The Twentieth Annual Report of the Board of Directors, for the fiscal year ended December 31, 1918, is herewith submitted.

The average mileage operated during the year was 349.7 miles, an increase compared with the previous year of .1 miles. The mileage at the end of the year was 350.2 miles.

RESULTS FOR THE YEAR.

Standard Return was.....	\$2,637,167.48
(Decrease \$677,557.44 or 20.44%, compared with corresponding income items of 1917.)	
General Expenses (Corporate) were.....	68,507.57
	\$2,568,659.91
War Taxes were.....	14,200.00
(Decrease \$205,747.30 or 93.54%.)	
Remainder was.....	\$2,554,459.91
(Decrease \$540,318.01 or 17.46%.)	
Miscellaneous Income was.....	282,486.41
(Increase \$180,538.66 or 177.21%.)	
	\$2,836,946.32
Rentals and Other Payments were.....	205,202.48
(Increase \$149,629.45 or 369.25%.)	
Income for the year available for interest was.....	\$2,631,743.84
(Decrease \$509,363.80 or 16.22%.)	
Interest (48.33% of amount available) was.....	1,271,914.50
(Increase \$64,719.33 or 5.36%.)	
Net Income for the year amounted to.....	\$1,359,829.34
(Decrease \$574,083.13 or 29.69%.)	
Dividends paid during the year:	
Two dividends of 2% each, aggregating.....	439,980.00
Balance, devoted to improvement of physical and other assets	\$919,849.34

RETURN ON PROPERTY.

The following table shows the amount of return to your Company, from transportation operations only, upon its investment in road and equipment at the termination of each year of the five-year period ended December 31, 1918; the road having been operated in 1918 by the United States Railroad Administration, the Standard Return has been used for that year in lieu of the operating and other items corresponding therewith:

YEAR ENDED	PROPERTY INVESTMENT.	TOTAL OPERATING INCOME (including hire of equipment and other items).	PER CENT. OF RETURN.
DECEMBER 31:			
1918	\$48,057,539.03	\$2,598,474.64	5.41
1917	46,237,480.24	3,060,174.97	6.62
1916	45,198,144.03	3,052,123.37	6.75
1915	44,802,665.64	2,041,149.36	4.56
1914	45,475,978.73	1,673,012.19	3.68
Average	\$45,954,361.53	\$2,484,986.91	5.41

FINANCIAL.

The changes in funded debt shown by balance sheet of December 31, 1918, as compared with December 31, 1917, consisted in the payment of \$205,000.00 on equipment trusts.

An analysis of the property accounts will be found on pages 18 and 19, by reference to which it will be seen that additions and betterments were made during the year to the net amount of \$1,819,858.79, of which \$1,783,596.02 was added to cost of road, and \$36,262.77 was added to cost of equipment.

During the past ten years your Company's net addition to property accounts has been as follows:

Equipment.....	\$4,217,845.07
Additions and Betterments.....	5,559,945.26
	\$9,777,790.33

Your Company had outstanding \$5,000,000 of short-term six per cent. notes which matured on November 1, 1918. A plan submitted by bankers looking to the financing of this maturity was acceptable to your Directors, but the necessary sanction of the Director General of Railroads to such plan was withheld. Consequently, upon the maturity of the notes, your Company found it necessary to request the note-holders to extend the maturity of their notes for three months. In effecting this extension the Director General co-operated. At the suggestion of representatives of the Railroad Administration, your Company then undertook the creation of a General Mortgage, under which bonds could be issued if found desirable, either for sale or for pledge to secure short-term obligations, for the purpose of providing both for the extended notes and for other capital expenditures. The stockholders at a Special Meeting held on January 25, 1919, authorized the creation of such a mortgage to secure not exceeding \$50,000,000 of General Mortgage Bonds. The total amount of bonds outstanding is further limited to an amount which, including prior lien bonds, shall not exceed three times the outstanding stock. On February 1st, 1919, when the extended notes matured, no plan acceptable to the Director General had been agreed upon, and a further extension until March 1, 1919, was arranged. Before the date last mentioned, your Company reached an understanding with the Director General and with bankers, whereby it was able to provide for the payment of the extended notes and for its other immediate capital requirements, through the issue and sale of \$7,500,000 of Five-Year 6% Gold Notes, due March 1, 1924, secured by pledge of \$9,600,000 of the new 6% General Mortgage Bonds.

Your Company purchased during the year \$200,000 United States Government 4% Bonds of the Fourth Liberty Loan.

GENERAL REMARKS.

The equipment in service December 31, 1918, consisted of:

Locomotives owned.....	133	No change
Locomotives leased under equipment trusts.....	8	No change
Total.....	141	No change
Passenger train cars owned.....	72	Increase 1
Freight train and miscellaneous cars owned.....	13,081	Increase 393
Freight train cars leased under equipment trusts.....	1,999	Decrease 500
Freight train cars under special trust.....	47	No change
Total freight train and miscellaneous cars.....	15,127	Decrease 107

The changes during the year in accrued depreciation of equipment account were as follows:

Balance to credit of account December 31, 1917.....	\$2,412,337.17
Amount credited during year ended December 31, 1918, by charges to U. S. Railroad Administration.....	\$315,012.83
Charges to account for:	
Accrued depreciation on equipment retired during year—114 freight and work cars.....	\$13,960.93
Accrued depreciation on cars changed in class during year.....	4,238.54
	18,199.47
	296,813.36

Balance to credit of account December 31, 1918..... \$2,709,150.53

Of the 27 miles of second track, north of Columbus, reported under construction last year, 3.36 miles LeMoyné to Cummings and 7.24 miles Delaware to Merdith (total 10.6 miles) have been completed, except ballasting, and placed in service; 2.35 miles Crawford to Carey were completed, except ballasting, and placed in service for siding purposes pending completion of Carey coaling station; and the grading and masonry for the remaining portions have been completed. Owing to the development of Parsons Yard the second track (.94 miles) between that point and Valley Crossing was converted into a passing track. The grading and bridging have been completed for 12.6 miles of extensions of passing tracks. A telephone dispatching and message circuit from Columbus to Toledo has been constructed. At Walbridge 9 stalls are being added to the engine house, which will be ready for use by the opening of the lake coal season, a 500-ton capacity concrete coaling station is under construction and the capacity of the yard has been increased by the construction of five 100-car departing tracks and the extension of four hump tracks to hold 100 cars each. At Carey the construction of a 500-ton capacity concrete coaling station has been commenced. At Marion a 5-stall engine house and 100-foot turntable are being constructed. At Parsons Yard South Columbus the five 100-car tracks under construction last year have been completed, the grading for 10 additional tracks (5 each in empty yard and loaded yard) has been completed, the advance lead for southbound trains has been extended three-quarters of a mile, an addition of 12 stalls to the engine house is under construction, and a 500-ton capacity concrete coaling station is practically completed. At South Columbus the separation of grades at Smoky Row Road ordered by the County Commissioners, and commenced last year, has been completed. At Logan the work of lengthening five stalls of the engine house is practically complete. At Nelsonville a 10-stall engine house, 100-foot turntable, machine shop, sand house, and oil house are under construction and will be in use early in 1919. On the River Division piers have been constructed to support two girder bridges, which are being renewed between Hawks and Minerton, and the steel work will be erected so that heavier power can be operated on this division by the middle of next summer.

OPERATION BY UNITED STATES RAILROAD ADMINISTRATION.

In the Annual Report for the year 1917, you were advised that the President of the United States, by Proclamation dated December 26, 1917, took possession and assumed control of the railroad systems of the country, appointing a Director General of Railroads, through whom the operation of such transportation systems was to be conducted. Under the Proclamation and under the Act of Congress of March 21, 1918 (generally known as the Federal Control Act), the railroad of your Company has, since December 28, 1917, been operated by the United States Government through William G. McAdoo, Director General of Railroads, and Walter D. Hines, his successor. The operating and traffic statistics contained in this report relate to the operation of your property by the Director General of Railroads.

Increases in wages of employees, made by the Director General of Railroads during the year, increased the year's cost of operation approximately \$1,762,000. These increases are in addition to the increases of \$625,000 mentioned in last year's report.

The revenue coal and coke tonnage was 11,799,891 tons, an increase of 10.5%; other revenue freight tonnage was 3,444,959 tons, a decrease of 17.8%. Total revenue tonnage was 15,244,850 tons, an increase of 2.9%. Freight revenue was \$11,343,613.42, an increase of 26.4%. Freight train mileage was 1,494,261 miles, an increase of 1.3%. Revenue ton miles were 1,892,824,838, a decrease of 3.7%. Ton mile revenue was 5.99 mills, an increase of 31.4%. Revenue per freight train mile was \$7.591, an increase of 24.7%. Revenue tonnage per train mile was 1,267 tons, a decrease of 5%; including Company's freight, the tonnage per train mile was 1,302 tons, a decrease of 4.8%. Tonnage per locomotive, including Company's freight, was 1,061 tons, a decrease of 5.5%. Revenue tonnage per loaded car was 43.7 tons, a decrease of .2%. Tons of revenue freight carried one mile per mile of road were 5,412,710, a decrease of 3.8%.

There were 1,293,257 passengers carried, a decrease of 23.9%. The number of passengers carried one mile was 42,551,254, a decrease of 14.9%. Passenger revenue was \$1,038,843.40, an increase of 8%. Revenue per passenger per mile was 2.441 cents, an increase of 26.9%. The number of passengers carried one mile per mile of road was 121,679, a decrease of 14.5%. Passenger train mileage was 548,159, a decrease of 22.5%. Passenger revenue per train mile was \$2.014, an increase of 48.1%; including mail and express it was \$2.188, an increase of 38%. Passenger service train revenue per train mile was \$2.260, an increase of 36.7%.

There were 5,726 tons of new 100-lb. rails, equal to 36.44 track miles, and 65 tons of new 90-lb. rails, equal to .46 track miles, used in the renewal of existing main tracks.

The average amount expended for repairs per locomotive was \$7,579.90, an increase of 102.2%; per passenger train car \$1,251.12, an increase of 49.5%; per freight train car \$136.93, an increase of 54.9%.

THE FEDERAL CONTROL ACT.

The Federal Control Act authorized the President of the United States to enter into agreements with the companies owning railroads taken over for their maintenance and upkeep during the period of Federal Control, and for the determination of the rights and obligations of the companies and the Government arising out of Federal Control, including the compensation to be received or guaranteed. The Act authorized the payment, under such agreements of an annual compensation equivalent, generally speaking, to the average net railway operating income for the three-year period ending June 30, 1917, as ascertained and certified by the Interstate Commerce Commission. The President was also given power, in any case where the average of the three-year period appeared plainly inequitable as a measure of Just Compensation, to enter into an agreement for such compensation as in his judgment would be just in the particular case.

COMPENSATION CONTRACT.

The average Annual Net Railway Operating Income of your Company for the three-year period ending June 30, 1917, as tentatively certified by the Interstate Commerce Commission, being \$2,637,167.48, the Directors of your Company believed it to be to the interest of the Company to enter into the agreement contemplated by the Federal Control Act, and, accord-

ingly, at the Special Meeting of Stockholders held on January 25, 1919, requested authority to proceed with the negotiation of an agreement on such basis. Such authorization was duly conferred, and the officers of your Company pursuant thereto, have made application to the Director General of Railroads for such an agreement. It is expected that the formal agreement will be executed in the near future.

CORPORATE ORGANIZATION.

During the early part of the period of Federal Control, the Director General permitted the railways to be operated under his supervision by officials of the corporations for the account of the Federal Government. Later a complete separation of the personnel and of the accounting records was ordered, and separate books were opened for Federal transactions and separate operating and accounting officials were appointed. The staff of the Director General for the operation of the railroad of your Company was selected from former officials of your Company and, as the officials so selected were by order of the Director General, required to sever all connection with the corporation, the creation of a distinct corporate organization to carry on the affairs and protect the interests of your company during Federal control became necessary. The expense of maintaining this organization has been, by order of the Director General, excluded as an operating expense chargeable to Federal Railroad operating income, which, in effect, amounted to a deduction of the cost of maintaining the corporate organization from the Standard Return provided by the Federal Control Act.

ALLOCATED EQUIPMENT.

During the year the officers of your Company were notified that the United States Railroad Administration had allocated to it five hundred fifty-five ton coal cars, the cost of which your Company was expected to assume. Your Board of Directors protested against being required to accept such equipment, as, in their opinion, the equipment allocated was unnecessary and was of a type unsuited for the proper and efficient operation of the railroad of your Company, and the prices paid for it by the Administration were unreasonably high. Notwithstanding these objections, the Director General has insisted that your Company accept this allocation under penalty of having the entire cost, approximately \$1,348,500.00, charged against the annual compensation due from the Railroad Administration, which cost, if so charged, might render it impracticable for your Company to maintain its present dividend rate. Your Directors are disposed to accept the allocation, provided the Director General will assist in financing its cost which it is believed he will be willing to do.

THE FUTURE.

The President of the United States has announced that Federal Control will terminate on December 31, 1919. The practical certainty that operating costs cannot be substantially reduced below their present high level and the probability that determined efforts will be made by shippers to prevent further increase of rates and even to effect reductions, will render it very difficult, after Federal Control has ended, to maintain between revenues and expenses the margin necessary to ensure an adequate return to your Company and provide the basis of credit necessary for the improvement and development of its property. This prospect, which faces every railroad in the country, makes it of the highest importance that some plan be devised and enacted into law, which, while protecting the proper interests of the public, shall yet also ensure the financial stability of our transportation system.

Your Directors have given and will continue to give their earnest consideration to the various plans that have been proposed for dealing with this problem. Its solution will require the exercise by National and State Legislatures and by public officials generally, of broad statesmanship and wise forethought. Railroad stockholders and creditors can render invaluable assistance in the formulation and discussion of any plan that may be adopted, and will, it is hoped, co-operate actively to the end that a solution may be reached which, while protecting the public, will make railroad securities attractive to investors and thus ensure the continuance of the wise principles of private ownership and individual initiative in the management and control of our transportation systems.

On July 30, 1918, your Company sustained a serious loss in the death of Mr. Clarence Brown, who had been a Director of your Company for a number of years.

Announcement is also made with regret of the death, on June 6, 1919, of Mr. Carl Remington, Assistant Secretary and formerly Secretary of your Company.

On February 1, 1919, Mr. James Stewart MacKie was, at his own request, relieved of his duties as Treasurer of the Company, and Mr. Arthur Trevett succeeded him in that office.

Appreciative acknowledgment is hereby made to officers and employees for their efficient services during the year.

By order of the Board of Directors.

FRANK TRUMBULL, Chairman and President.

GENERAL BALANCE SHEET, DECEMBER 31, 1918 (CORPORATE).

ASSETS.		LIABILITIES.	
Property Investment.		Capital Stock	\$11,000,000.00
Cost of Road.....	\$31,672,612.79	Funded Debt.	
Cost of Equipment.....	15,770,359.28	First Consolidated Mortgage	
	\$47,442,972.07	4½% Bonds, 1999.....	\$16,022,000.00
Securities of Proprietary, Affiliated		First Mortgage C. & H. V. R.	
and Controlled Companies—		R. 4% Bonds, 1948.....	1,401,000.00
Pledged.		First Mortgage Cols. & Tol.	
Stocks	\$108,088.66	R. R. 4% Bonds, 1955.....	2,441,000.00
Bonds	300,000.00	6% Coupon Gold Notes, 1919,	
	408,088.66	Extended	5,000,000.00
Securities of Proprietary, Affiliated			\$24,864,000.00
and Controlled Companies—		Equipment Trust Obligations..	980,000.00
Unpledged.			25,844,000.00
Bonds	\$150,000.00		\$36,844,000.00
Miscellaneous	47,099.60		
	197,099.60	Working Liabilities.	
Other Investments.		Loans and Bills Payable.....	\$1,215,000.00
Miscellaneous Investments—Sec-		Traffic Balances	4,063.59
urities—Pledged	400,000.00	Audited Vouchers and Wages	
	\$48,448,160.33	Unpaid	11,555.04
Working Assets.		Miscellaneous Accounts Payable	9,846.80
Cash	\$37,755.91	Matured Interest, Dividends	
Loans and Bills Receivable...	2,315.36	and Rents Unpaid.....	608,176.00
Traffic Balances	3,203.64	Other Working Liabilities....	11,342.00
Miscellaneous Accounts Receiv-			\$1,859,983.43
able	38,850.62	Deferred Liabilities.	
United States Government:		Unmatured Interest, Dividends	
Unpaid Standard Return Ac-		and Rents Payable.....	\$92,327.49
rued	2,637,167.48	Taxes Accrued	14,084.65
Interest Accrued on above..	49,446.90	Operating Reserves	170.00
Other Working Assets.....	1,560.83	Accrued Depreciation—Equip-	
	\$2,770,300.74	ment	2,709,150.53
Securities in Treasury—Unpledged.		United States Government...	4,421,283.18
Stocks	\$501.00	Other Deferred Credit Items..	145,639.47
Bonds	199,950.00		7,382,655.32
	200,451.00		9,242,638.75
Deferred Assets.		Appropriated Surplus.	
Advances to Proprietary, Affil-		Additions to Property through	
iated and Controlled Com-		Income since June 30, 1907.	\$181,409.11
panies	\$56,278.30	Funded Debt Retired through	
Advances, Working Funds....	2,999.15	Income and Surplus.....	131,331.90
Insurance paid in advance....	434.81	Reserve Invested in Insurance	
Cash in Sinking Funds.....	650.74	Fund	47,216.63
Special Deposit with Trustee—		Other Reserves	24,252.26
Mortgage Fund	423,334.74	Appropriated surplus against	
Cash and Securities in Insur-		contingent liability for	
ance Reserve Fund.....	47,298.83	freight claims	120,000.00
United States Government....	4,201,222.34		\$504,209.90
Other Deferred Debit Items..	115,343.20		9,676,125.53
	4,848,062.11	Profit and Loss—Balance.....	10,180,335.43
	7,818,813.85		
Total	\$56,266,974.18	Total	\$56,266,974.18

This Company and The Toledo & Ohio Central Railway Company severally endorsed, in 1901, upon 5% First Mortgage Bonds of the Kanawha & Hocking Coal & Coke Company due 1951 (\$2,842,000 outstanding) and, in 1902, upon 5% First Mortgage Bonds of the Continental Coal Company due 1952 (\$1,569,000 outstanding less credit on foreclosure of \$506.75 per \$1,000 bond) purported guaranties thereof. In *quo warranto* litigation in Ohio, to which the bondholders were not parties, the purported guaranties of this Company upon the bonds last mentioned have been declared *void* and the performance of the contracts pursuant to which both guaranties were made has been enjoined by the Federal Court in that State. The enforceability of these alleged guaranties is now in litigation.

[ADV.]

Railway Officers

Railroad Administration

Operating

J. W. Lynch, assistant superintendent of the Denver & Rio Grande, with headquarters at Gunnison, Colo., has been appointed trainmaster of the Salt Lake division, with headquarters at Thistle, Utah.

C. J. Connett, chief dispatcher on the Chicago, Burlington & Quincy, with headquarters at Casper, Wyo., has been promoted to trainmaster with headquarters at Lincoln, Neb., succeeding **F. G. Gurley** who has been transferred.

O. P. Whitlock, assistant trainmaster on the Cincinnati division of the Cleveland, Cincinnati, Chicago & St. Louis, with headquarters at Springfield, Ohio, has been promoted to trainmaster of the Cairo division with headquarters at Harrisburg, Ill.

W. M. Stillman, who recently received his discharge from the army, has resumed his duties as assistant superintendent of the Stockton division of the Southern Pacific, with headquarters at Stockton, Cal., in place of **E. D. Leavitt**, who has been transferred.

J. P. Phelan, assistant superintendent on the Rocky Mountain division of the Chicago, Milwaukee & St. Paul lines west of Mobridge, with office at Three Forks, Mont., has been promoted to superintendent of the Rocky Mountain and Missoula divisions, with headquarters at Deer Lodge, Mont., vice **J. J. Murphy**, assigned to other duties. **H. L. Wiltrout**, trainmaster at Tacoma, Wash., has been promoted to assistant superintendent of the Rocky Mountain division, with headquarters at Three Forks, vice Mr. Phelan, and **W. H. Wingate**, trainmaster at St. Maries, Idaho, has been transferred to the Coast division, with headquarters at Tacoma, Wash., vice Mr. Wiltrout.

Financial, Legal and Accounting

J. A. Quinn has been appointed assistant auditor of the Oregon Short Line Railroad, with office at Salt Lake City, Utah, to succeed **H. A. Toland**, resigned to accept a position with the corporation.

Traffic

Lewis T. Kavanaugh, assistant traffic manager of the Mississippi-Warrior Waterways with headquarters at St. Louis, Mo., has been promoted to manager with the same headquarters, to succeed **A. W. Mackie**, who has resigned to become general manager of the Lientz Furnace Corporation, Kansas City, Mo. **S. I. Flournoy**, assistant to the manager, has also resigned to enter other work.

G. C. Devol, assistant general freight agent of the Louisville & Nashville, with headquarters at Louisville, Ky., has resigned to enter the service of the Irving National Bank of New York. Mr. Devol was born on January 3, 1883, at New Albany, Ind., and was educated in the grade and high schools. He began railway work in October, 1898, in the freight claim department of the Louisville & Nashville. From 1901 to 1908 he served as clerk in the general freight office and then was appointed assistant chief clerk to the third vice-president and freight traffic manager. In February, 1912, he was appointed chief clerk to the general freight agent, and in March, 1917, was promoted to assistant general freight agent.

Engineering and Rolling Stock

J. R. Smith, chief electrician of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at St. Paul, Minn., has been appointed signal supervisor, with headquarters at

Minneapolis, Minn., succeeding **E. B. Dodd**, who has been assigned to other duties. **S. D. Dimond** succeeds Mr. Smith as chief electrician.

Corporate

Executive, Financial, Legal and Accounting

Colonel Frederick W. Green, assistant to the president of the St. Louis Southwestern Railway Company and the St. Louis Southwestern Railway Company of Texas, has been appointed vice-president of these companies, with headquarters at St. Louis, Mo., and his former position has been abolished.

Operating

A. D. McCarthy has been appointed assistant superintendent of the Montreal (Que.) terminals of the Grand Trunk, vice **F. J. Miller**, resigned.

R. A. Sewell, assistant superintendent of the Canadian Pacific, with headquarters at Montreal, Que., has been appointed superintendent of car service on the Eastern lines, succeeding **O. M. Lavoie**, promoted.

E. J. Naylor, auditor and car accountant of the Batesville Southwestern, with headquarters at Memphis, Tenn., has been promoted to general superintendent with headquarters at Batesville, Miss., succeeding **Henry Pingle**, who has resigned.

H. J. Humphrey, superintendent on the Quebec district of the Canadian Pacific, with headquarters at Montreal, Que., has been transferred to the Trenton division with headquarters at Toronto, Ont., in place of **R. W. Scott**, who has been transferred to the Toronto terminals division, with headquarters at West Toronto, Ont., succeeding **T. Collins**, who has been transferred.

Traffic

Guy Tombs, assistant freight traffic manager on the Canadian National Railways, with office at Montreal, Que., has resigned to enter the service of the Canadian Export Paper Company.

Obituary

Charles E. Vroman, formerly assistant general solicitor for the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, died on August 30, at his summer home on an island north of Mackinac, Mich. He was 74 years old.

Edward S. Keeley, former vice-president of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, died on August 1, at his home in Summit, N. J., following an operation for appendicitis. He was born on November 11, 1858, at Peru, Ill., and entered railway service in 1874 as a clerk in the freight department of the Rock Island & Peoria at Rock Island, Ill. For two years he was employed in the traffic department of the St. Louis & Southeastern, which is now a part of the Louisville & Nashville, with headquarters at St. Louis, Mo. In 1883, he entered the service of the Chicago, Milwaukee & St. Paul as a clerk for the division freight agent, in which position he remained until 1887, when he was promoted to division freight agent with headquarters at Milwaukee, Wis. In 1891 he was appointed assistant general freight agent and in 1900, he was promoted to general freight agent, which position he held until January 1, 1907. He then became freight traffic manager which position he held up to his election as vice-president on April 21, 1909. In December, 1917, Mr. Keeley resigned as vice-president to become manager and assistant treasurer of the United States Sugar Equalization Board, Inc., with headquarters at New York.

One rain drop won't make a crop and one Thrift Stamp won't make a fortune, but both usually bring others of their kind with them.

EDITORIAL

Railway Age

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There is a manifest disposition in some high official quarters to concede the justice of the contention of railway employees

Railway Wages and the Cost of Living

that their wages have not been, but should be, advanced in proportion to the increase in the cost of living. But is this contention well-founded? The increase in the cost of living has affected everybody—rich and poor, large and small, capitalists, salaried people and wage workers. How many of the people of the United States have received increases in their incomes since 1915 which have equalled the increases in the cost of living? We don't know, but we venture to estimate that not one-fourth of the people of all classes have. If not one-half, and probably not one-fourth, of the people have received increases in their incomes as large in proportion as the increase in the cost of living, what right have railway employees to demand that the advances in their wages shall be made equal to the advance in the cost of living? If their wages are further advanced, the entire people of the United States will have to foot the bill, either in taxes, or in passenger and freight rates. The effect of this will necessarily be to increase the cost of living of all other classes of people. The question which really should be considered is not whether the cost of living has increased more or less than the wages of railway employees. If the cost of living is to be made the starting point of the investigation, then what ought to be ascertained is whether the wages of railway employees have increased more or less in proportion to the increase in the cost of living than have the incomes of the other people, and especially the other working people of the country. To raise the wages of any class of people enough to offset the increase in the cost of living, when the incomes of most of the other people have not increased in proportion to the cost of living, is to make a privileged class of those whose wages are raised at the expense of the rest of the people; and this the government has no right to do.

The Dyer resolution, recently reported favorably by the House Committee on Interstate Commerce, calls attention to the waning supply of timber and directs the Interstate Commerce Commission to investigate the advisability of using steel ties. There is no denying the fact that as a nation we are rap-

Must We Use Substitute Ties

idly exhausting our birthright of wonderful forests. According to officers of the forest service, the consumption is now three times the production. However, the scarcity will unquestionably result in such advances in prices that there will be a natural decrease in consumption in all lines where substitutes for lumber may be applied. While the relation of lumber consumption to lumber production is a matter of real concern, the scarcity of ties experienced during the war period cannot be interpreted in terms of ultimate depletion. On the contrary, the shortage of ties in 1918 was the result of the temporary cessation in production, brought about by war conditions and other circumstances previously discussed in these columns. This condition has now largely been overcome, as witnessed by the production of about 10,000,000

ties per month. If we must take cognizance of our rapidly disappearing forests, it would seem to be a matter of national concern as affecting all forests and all users of lumber. Why should the railroads be singled out to bear the brunt of a campaign for forest conservation? With any undertaking involving the use of private capital, the question resolves itself into one of cost. As long as the cost of a wooden tie, distributed over the years of its natural life, is less than the cost of some substitute considered in a like manner, the railroads cannot well be deterred from using the wooden tie in the absence of some general restriction on the use of lumber for all purposes. However, just as soon as a substitute is devised which will enable the roads to maintain their tracks at a lesser expense than with the wooden cross tie, no legislation will be necessary to promote its general introduction. In the mean time, there will be every incentive for co-operation on the part of the railroads in the development of the substitute, as there are probably more opportunities for immediate conservation of lumber through improved practice in its use. Too many wooden cross ties are still being used without preservation treatment or protection from mechanical destruction. When all the railroads have adopted the measures for conserving ties, which on some roads have resulted in a reduction of 50 per cent of their annual renewals, a very pronounced reduction in the consumption of our forests will have been accomplished.

The people of our American cities will require a generation—thirty or forty years—in which to come to an adequate

The Slow Growth of Public Sentiment

realization of the simple and axiomatic truth that to get good service from their street railways they will be obliged to allow the owners of the properties a reasonable income. These are the words of Dean Mortimer E. Cooley of the engineering schools of the University of Michigan, speaking in Washington, before the commission which was appointed by President Wilson to make a general investigation of the country-wide crisis in street railway finances. Doctor Cooley, evidently, is a philosopher who believes in taking things as he finds them—while most of us go on discussing grave problems, involving the most fundamental issues, as though we expected such discussion to produce results immediately. To what extent does Dr. Cooley's time-estimate fit the general railroad situation? The Interstate Commerce Commission and Congressmen have had a pretty clear view of the thickening storm in the railroad world now for several years; what signs do we see that they have learned wisdom in that time? The few leaders who see straight have still before them the task of arousing their hundreds of colleagues to an appreciation of the broad view which will be essential to the adoption of a workable policy. There is one element of satisfaction at least; the general railroad problem is the biggest one of all; it cannot long be ignored or evaded. Even delay and inaction are clearly recognized by everybody as equivalent to a decision. The street railway problem, like the "Short Line" problem—enormous as these are intrinsically—still must be classed as secondary. Every